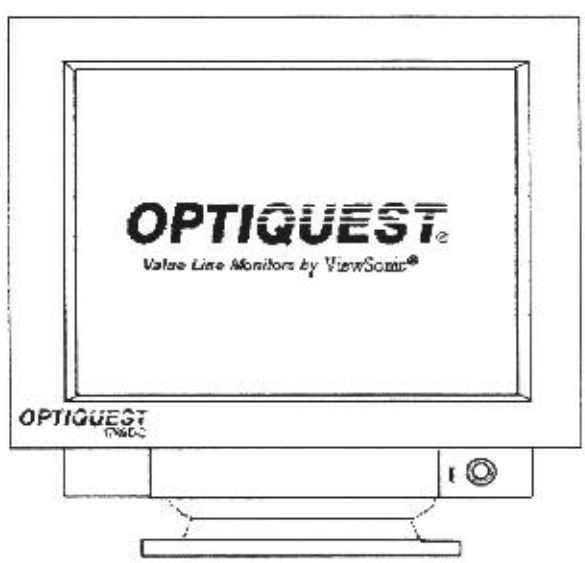
Service Manual

OPTIQUEST 1769DC

Model No. 1769DC-2

17" Digital Controlled Color Monitor
Value Line Series



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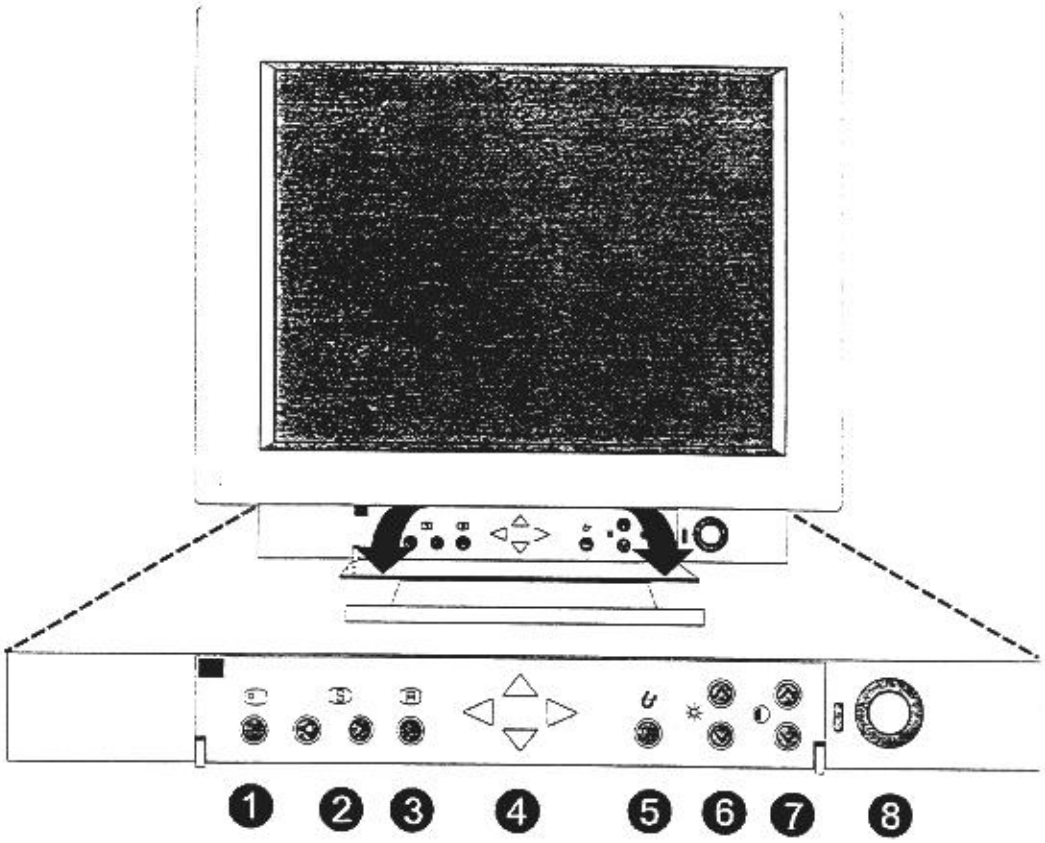
1.1. Monitor Control Locations & Functions



KEY TO BUILT-IN MONITOR CONTROL FUNCTIONS		
❶	**OSD**	Press to enter and exit the OSD menus.
❷	**Select buttons**	Press to select the OSD option to change.
❸	**Recall**	Press to recall the factory preset defaults.
❹	**Adjustment buttons**	Use these to increase or decrease values when adjusting the OSD options.
❺	**Degauss**	Press to degauss the monitor
❻	**Brightness**	Press to increase or decrease the monitor's brightness..
❼	**Contrast**	Press to increase or decrease the monitor's contrast.
❽	**Power On / Off**	Press to turn on or off the power to the monitor.

1.2. Product Overview

The monitor 1769DC-2described in this service manual has the following features:

- 17 inch 0.27 or 0.28mm dot pitch conventional CRT
- 30-69kHz horizontal scanning
- Ten preset modes
- Universal segmented auto range power supply
- VESA/NUTEK/EPA compliant power management

1.3. CRT Characteristics

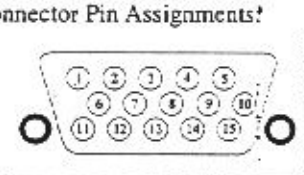
- Screen Size. . . . . 17 inches
- Faceplate Type. . . . . FS
- Orientation . . . . . Landscape
- Phosphor Dot Pitch . . . . . 0.27 or 0.28mm
- Electron Gun . . . . . 29mm, Precision-In-Line
- Deflection Angle . . . . . 90 degree diagonal
- Shadow Mask . . . . . Invar
- Phosphor Type. P22
- Phosphor Persistence. . . . . Medium Short
- Faceplate Properties. . . . . ASN antistatic, antireflection
- Standard Light Transmission. 53.5% Typical

1.4. Power Specifications

- A/C Receptacle IEC320
- Power Supply Type . . . . . Universal
- A/C Line Voltage Ranges . . . 88VAC - 132VAC
180VAC - 264VAC
- A/C Line Frequency Ranges . 50Hz/60Hz ±3Hz
- Inrush Current . . . . . 30A/132V or
50A/264V (at cold start)
- Leakage Current . . . . . ≤3.5ma
- Degauss . . . . . Automatic and Manual

1.5. Video Input Signal Characteristics

- Video Type . . . . . Analog
- Amplitude . . . . . 700mV maximum
- Video Input Impedance . . . . . 75 Ohms ±1%
- Video Connector Pin Assignments:



Pin	Signal	Pin	Signal	Pin	Signal
1	Red video	6	Red return	11	Monitor GND
2	Green video	7	Greenreturn	12	SDA
3	Blue video	8	Blue return	13	H. sync.
4	Monitor GND	9	No pin	14	V. sync.
5	Return	10	Sync return	15	SCL

1.6. Sync Input Signal Characteristics

1.6.1. Separate Sync

- Sync Type . . . . . TTL
- Amplitude . . . . . 2.4V minimum (Logic High)
0.8V max. (Logic Low)
- Polarity. . . . . Positive or Negative

1.7. Video Amplifier Performance

- Video rate 110MHz
- 90% Rise and fall times. 12ns
(Measurement shall be made at CRT connector, with output swinging 30Vpp)
- Video generator rise/fall time 2ns maximum
- Scope and probe bandwidth . 350MHz minimum
- Probe capacitance 2.5pf
- Overshoot/Undershoot . . . . . 15% max.

1.8. Environmental

1.8.1. Temperature / Humidity / Altitude

OPERATING

- Temperature. . . . . 10°C to 35°C
- Relative Humidity . 0 to 90%, non-condensation
- Altitude . . . . . 0 to 10,000 feet

NON-OPERATING

- Temperature. . . . . -40°C to +65°C
- Relative Humidity . 0 to 95%, non-condensation
- Altitude . . . . . 0 to 40,000 feet

1.8.2. Vibration Test

UNPACKED UNIT

	Frequency	Amplitude (m/m)	Acceleration (G)
1	5 - 22Hz	0.25mm	–
2	22-500Hz	–	0.25G

Times/Cycle:

- Rise Time. . . . . 10 Minutes
- Fall Time . . . . . 10 Minutes
- Number of Sweeps . . . . . 1 Cycle
- Axis . . . . . X,Y,Z
- Total Times . . . . . 60 Minutes

PACKAGED UNIT

	Frequency	Amplitude (m/m)	Acceleration (G)
1	5 - 50Hz	–	0.83
2	–	–	–

- Times/Cycle:
- Rise Time. . . . . 10 Minutes
- Fall Time . . . . . 10 Minutes

- ☐ Number of Sweeps 1 Cycle
- ☐ Axis ..... X,Y,Z
- ☐ Total Times ..... 60 Minutes

1.8.3. Drop Test

- ☐ Compliant with NSTA Project 1A guidelines
- ☐ Drop Height 46cm
- ☐ Test Direction ... 1 Corner, 3 Edges, 6 Faces

1.9. Preset Timing Modes

This display has 10 preset display modes configured during manufacture, given in the following table:

Mode No.	H(KHz)	V(Hz)	Pixel Rate
01	60.023	75.029	78.750
02	58.230	72.245	75.000
03	50.000	87.030	80.000
04	48.077	72.188	50.000
05	46.875	75.000	49.500
06	37.879	60.317	40.000
07	37.861	72.809	31.500
08	37.500	75.000	31.500
09	35.520	86.960	44.900
10	31.469	59.940	25.175

Section 2.
Disassembly Instructions

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2.1. Removing the Cabinet

(A). Remove the four screws at the rear of the display.

(B). Lift the cover vertically away from the monitor.

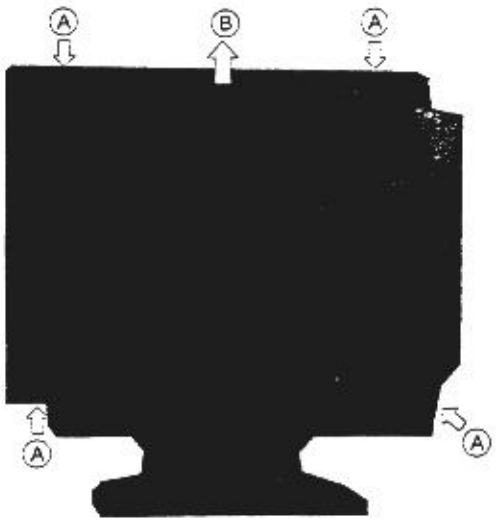

Figure 2-1 Removing the Cabinet

2.2. Internal Disassembly (Right Side)

The neck board is plugged onto the CRT neck and is enclosed in a metal shielding.

(A). Disconnect the degaussing coil from the main board.

(B) Removing the screw from the chassis rear.

(C) Disconnect the ground wires from the metal casing of the neck board.

(D) Remove the Lock Cap from the nylon ties.

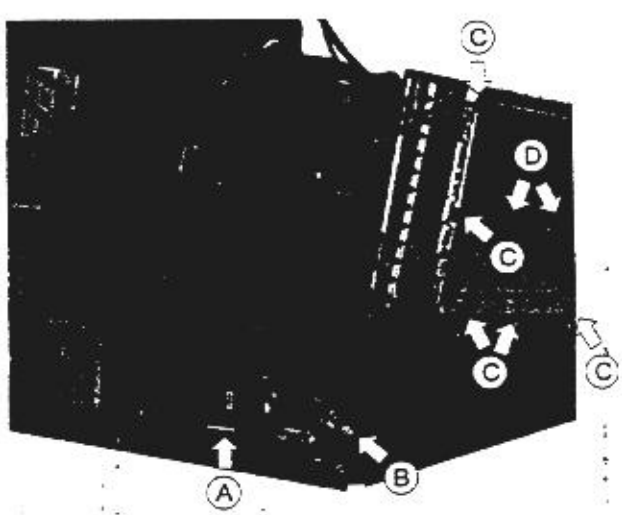

Figure 2-2 Internal Disassembly (Right Side)

2.3. Internal Disassembly (Left Side)

(A) Remove the ground wires from the neck board casing. You may now remove the neck board from the CRT if required. The neck board is secured in place on the CRT neck with Sony bond. Use a flat head screwdriver to prise this away and then pull the neck board away from the CRT neck.

(B) Undo the screw holding the ground wire to the metal frame.

(C) Disconnect the ribbon cable from the logic board and the cable from the CRT connected to the rear side of the logic board.

(D) Remove the CRT anode cap.

(E) Cut the cable tie indicated to free the cables.

(F) Disconnect the 4-pin connector on the CRT yoke cable. You may now remove the logic board if required.

(G) Remove the Neck PCB from the CRT.

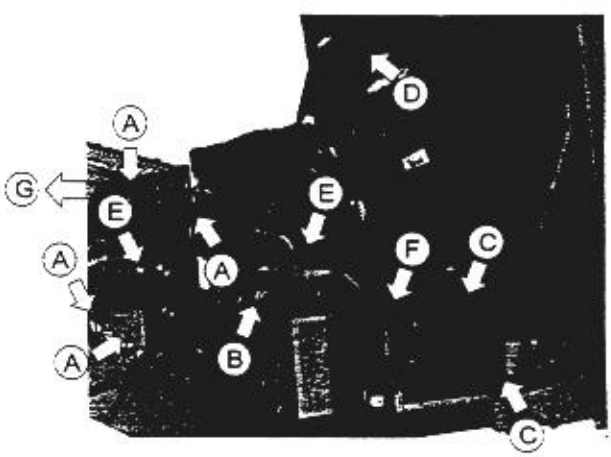

Figure 2-3 Internal Disassembly (Left Side)

2.4. Removing the Main Board

(A) Place the display flat on its face and remove the nylon rivets holding the main board in place on the frame.

(B) Hold the from bezel with one hand and withdraw the main board vertically from the CRT assembly. It may be necessary to pull the plastic frame on either side outwards slightly to disengage the main board from the plastic frame.

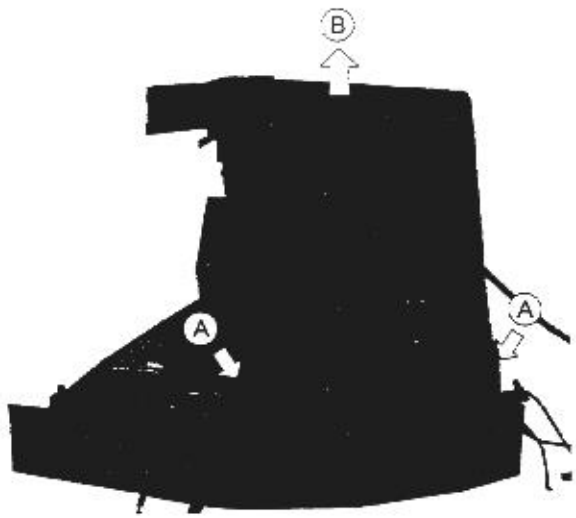

Figure 2-4 Removing the Main PCB

2.5. Removing the Control Panel

(A) Remove the plastic rivets from the bottom of the control panel.

(B) Pull the control panel sub-assembly away from the monitor bezel.

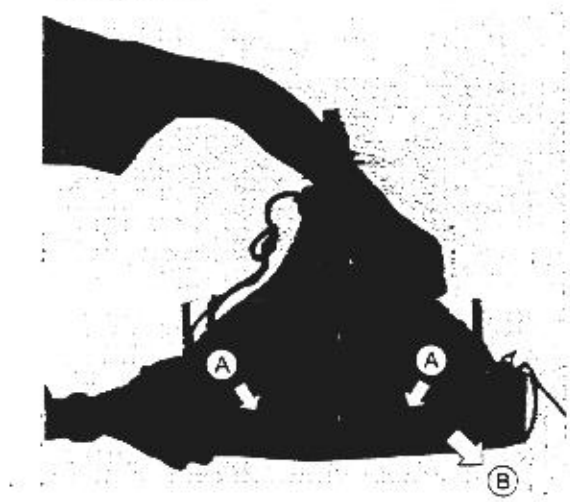

Figure 2-5 Removing the Control Panel

2.6. Removing the Control PCB

(A) Remove the two screws from the PCB.

(B) Remove the control PCB from the control panel.

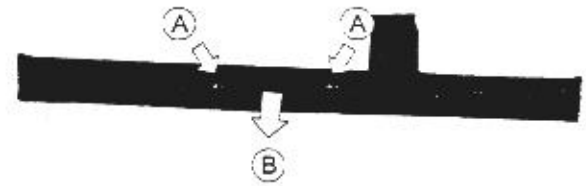

Figure 2-6 Removing the Control PCB

2.7. Removing the CRT from the Front Bezel

(A) Undo the four screws at each corner of the CRT.

(B) The CRT can now be separated from the front bezel and the CRT grounding harness and degaussing coil also removed.

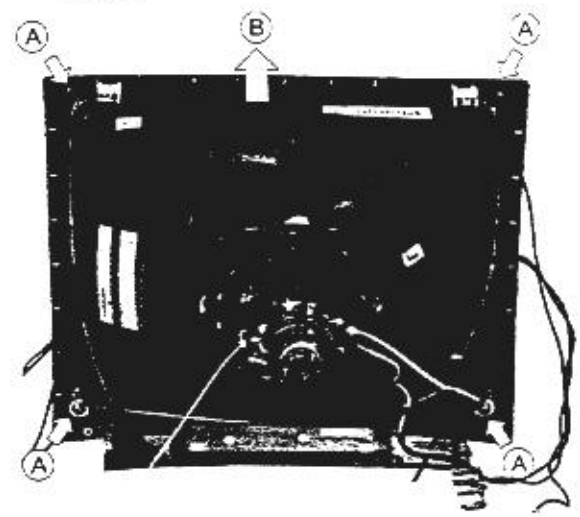

Figure 2-7 Removing the CRT from the Front Bezel

Section 3.
Theory of Operation

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3.1. Switching Power Supply

The switching power supply (SPS) used in this display is a 130W flyback mode type. The power supply provides seven outputs (B+, 75V, 15V, -15V, 6.3V, +12V and +5V). Please refer to schematic diagram for details of the circuit layout. The input voltage is from 85VAC — 270VAC with an input frequency of 47Hz — 63Hz.

The current first passes through the EMI control circuit and is regulated to DC by the bridge diodes (BD1) and filter capacitor (C9). During rectification a large current surge is generated and as C9 has a very low impedance while being charged the fuse, on/off switch and bridge diode are all liable to be damaged. For this reason, a thermal resistor (THMER) is added before the bridge diode in order to limit the large current surge generated during the charging of the capacitor.

During rectification, C12 is charged through R7, R12 and Q2. When C12 is charged to 16V, IC2 3842A starts to operate (for details, of the functions of this IC, please refer to the relevant data sheet) and outputs a pulse signal from Pin 6 to set the transistor Q6 in the ON state. At this time, transformer T3, which is connected in parallel, starts to store power. When the current passing through the resistor R45, and the supplementary current from R39, R41 and R27 (Pin 4 to Pin 3) into Pin 3 of IC1 reaches 1.1V, IC1 is reset, causing the energy stored by the transformer to reach the rated value. In order to prevent the transformer from being saturated and causing damage to the transistor, when transistor Q6 is in the OFF state, the energy stored in the transformer T3 is released into the secondary coil and is regulated through the various output loops and filters and converted to the required DC output. In addition to this, at the appropriate time, the windings Pin1 — Pin2 supply Pin 7 of IC1 with a fixed power supply for normal operation. Also, when windings Pin1 — Pin3 are in power saving active state, power is supplied to Pin 7 of IC1 for normal operation.

3.1.1. Auto-degaussing

When Pin 29 of P2 connector is in high state, the transistor Q1 2SC945P is on, causing the relay to jump from Normal Open (N.O.) to Normal Close (N.C.) to perform auto-degaussing operations. The duration of this operation is controlled by Logic pulse , and when about 6 seconds, transistor Q1 enters the OFF state and the relay returns to N.O. to terminate the auto-degaussing operation.

When the feedback signal passing through the main 75V output is completed, the transistor's duty cycle is adjusted through the transfer to Pin 2 of IC2 3842 of the primary coil by PH1 4N35 and IC4 TL431, stabilizing the output current. At this time, it is important to note that before the feedback signal is established, the charge level of C15 cannot trigger Q3 SCR or it will cause a faulty power startup. In addition, in order to synchronize the supply power and monitor and reduce noise that will cause interference to the display, in the area D11 the monitor's feedback transformer gets a feedback signal in order to ensure synchronization between the power supply and monitor, with synchronization in the range 30kHz — 69kHz. Because the power operating frequency changes with the monitor causing changes in the value of IP, (the value of LP is fixed while the value of IP increase or decreases according to the frequency), this affects the test value of Pin 3 of IC2 3842A. This causes the total power supplied to vary

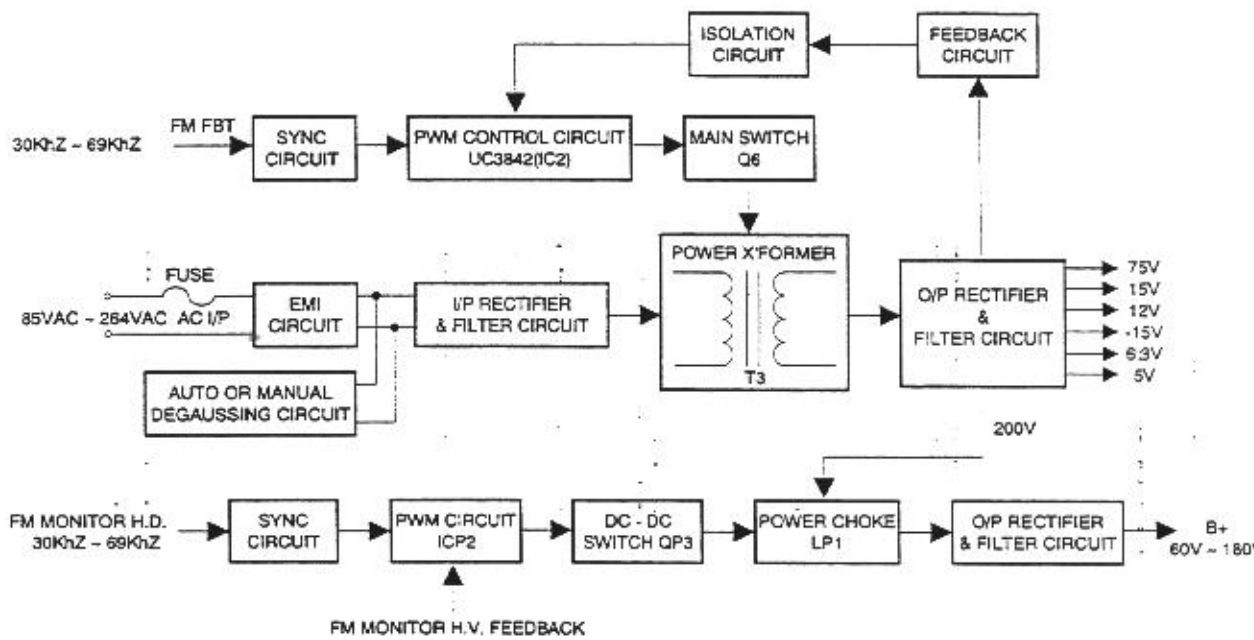


Figure 3-1 Switching Power Supply Block Diagram

according to the frequency, so a compensation value is provided by D12 in order to reduce the difference in total power for different frequencies. In addition, because the AC input ranges from 85VAC to 270VAC, this causes the value of the direct current on the DC bus to vary, affecting the rise rate of IP, the oscillator and the duty cycle, and causing the test value obtained at Pin 3 of IC2 to vary. To resolve this, a compensation value is provided by R39 and R41 which reduces the difference resulting from the different input voltages.

3.1.2. DC to DC Circuit

Another special characteristic of this power supply is the addition of a DC to DC circuit to the output. In order to support the monitor at different frequencies, a similar high voltage is required (26kV). To accommodate this requirement, a buck loop has been added to the 200V output. The synchronization signal is got from the monitor H.D. area, and after getting synchronization through QP1 trigger ICP2, a high voltage feedback signal (FB), is input to QP2 to obtain the DC level. A comparison is carried out between Pin 5 of ICP2 and ICP3 to establish the duty cycle of transistor QP3 (IRF840) so that even under different frequencies, a similar high voltage value is still obtained.

3.2. The Deflection Circuit

Please refer to the block diagram of the deflection circuit and video circuit and Logic circuit.

3.2.1. IC304 TDA9102C

1. IC304 TDA9102C is a horizontal and vertical processor. The horizontal section consists of a TTL interface, two comparators and an oscillator. The vertical section consists of a TTL input interface and an oscillator. This IC includes a voltage stabilizer to provide about 8V.
2. When sync is input as a TTL level, this causes a negative edge trigger. Pin 4 serves as the H-sync input point and Pin 14 as the V-sync input point.
3. Pins 6 and 7 are the collector (C) and emitter (E) of the IC's internal transistor. The output from Pin 7 is not enough to drive T301 as the output current of IC304 is small, so Q345 and Q310 are used to amplify the current to drive T301.
4. Pins 1 and 2 provide the external control of the horizontal oscillator free run. Free run is controlled by changing the resistance value of R383 R379 R403 and C392 to obtain different DC voltage levels. By adding an external F/V on Pin 1, the difference between a variety of input frequencies and free run is maintained at a similar level. In this way, when different timing modes are input, if the ratio between the active display and total display is similar, then the position of the phase will also be similar.
5. Pins 12 and 13 provide the external control of the vertical oscillator free run. Free run is controlled by changing the resistance value of R388 to obtain different DC voltage levels. By adding an external F/V on Pin 12, the difference between a variety of input frequencies and free run is maintained as similar. The vertical free run trigger synchronization point will affect the amplitude of Pin 15 V-output. Since the difference between each input frequency and free run is similar, this means the synchronization trigger level is also similar, making the V-OUTPUT at Pin 15 also similar. As long as the ratio of the width of active display to total display is similar, then V-SIZE will be similar. For example, the ratios of 35kHz 800x600 and 37kHz 800x600 are approximately the same so they only use one VR (please refer also to the explanation of vertical deflection).
6. The Horizontal phase of different modes can be individually adjusted by changing the VDC level at Pin 10.
7. The vertical size of different modes can be individually adjusted by changing the VDC level at Pin 16.
8. The vertical linearity can be changed by altering the VDC level at Pin 17.

3.2.2. Vertical Deflection Circuit

1. IC201 TDA8172 consists of a flyback generator, voltage stabilizer, drive circuit and vertical output amplifier.
2. The vertical oscillator circuit

   (a) The frequency and phase of the vertical oscillator circuit is generated by the vertical synchronization signal.

   (b) The synchronization signal is output from Pin 14 of IC304 TDA9102C and, after being processed by the synchronization circuit, is sent to the vertical synchronization oscillator circuit to trigger the vertical oscillator and synchronize the oscillator frequency with the external synchronization signal. The frequency of its internal free oscillation is set by the time constant of R387 and C384. The F/V voltage output from IC307 Pin 15 is used to maintain the difference between the free oscillation frequency and external synchronization signal frequency at a similar level and make the sawtooth wave amplitude from Pin 15 of IC304 the same.

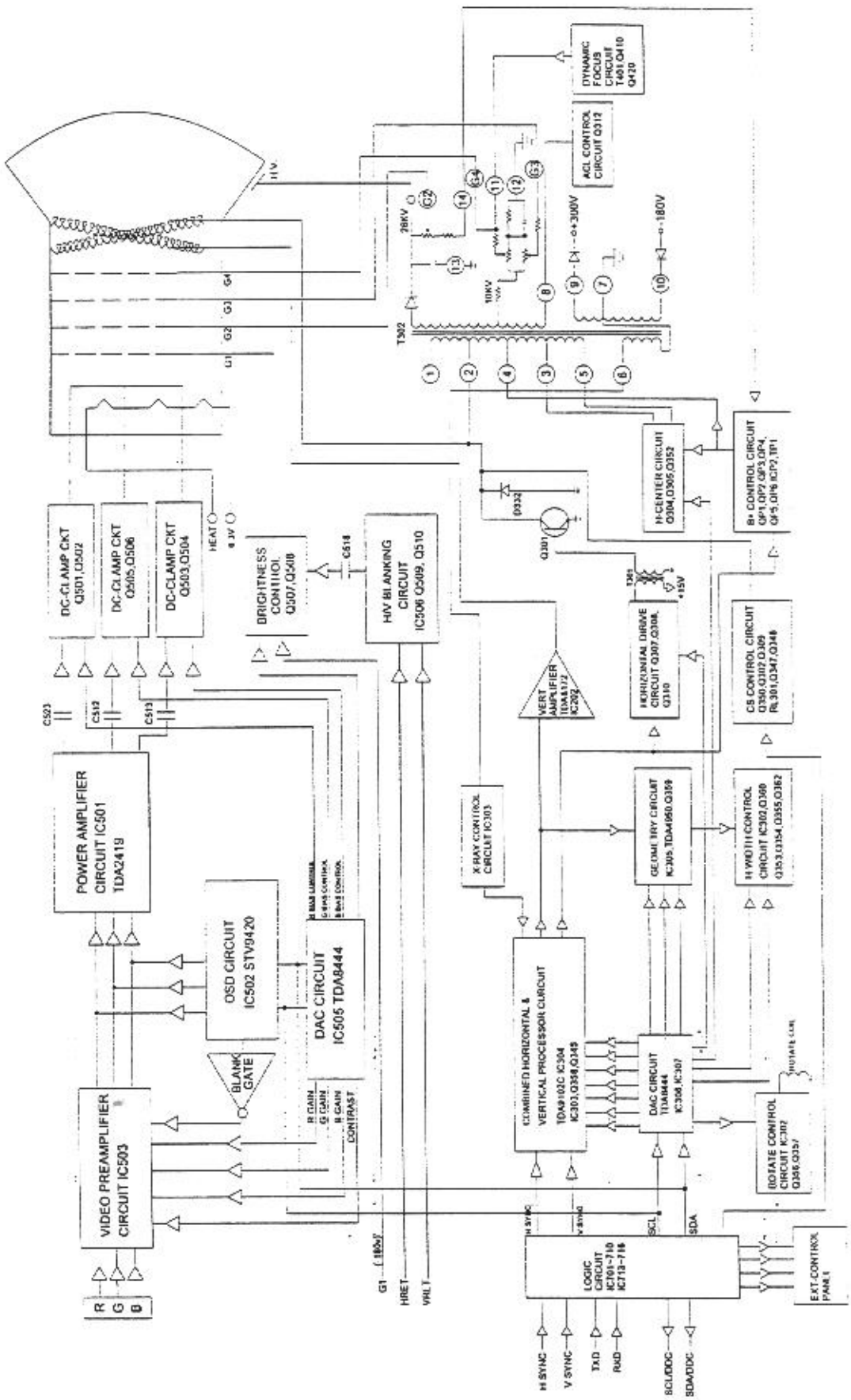


Figure 3-2 Video, Logic and Deflection Block Diagram

3. **Vertical Size Control**

The pulse voltage output by the oscillator is sent to the sawtooth wave generator. The size and amplitude of the voltage of the sawtooth wave generation can be changed by DC value which output from Pin10,11 of IC306 and the vertical size can thus be controlled. This sawtooth wave voltage passes through a buffer and is output from Pin 15 of IC304 to Pin 1 of IC202 TDA8172 of the vertical drive circuit.

4. **Vertical Drive Circuit**

(a) It is not sufficient to rely solely on the oscillator circuit output to ensure the stability of the vertical output, so a first or second level amplifier circuit must be inserted between the oscillator circuit and the output. This circuit is called the drive amplifier and in addition to amplifying the sawtooth wave also corrects the vertical linearity.

After adding the drive circuit, because the level of amplification can be considerable, enough negative feedback can be added to correct vertical linearity and increase the stability of the circuit.

(b) If the current of the sawtooth wave flowing through the deflection yoke is distorted, then the top and bottom portions of the display will be expanded or compressed, resulting in poor linearity. In order to solve this problem, correction of the linearity of the sawtooth wave can be carried out before the drive level.

5. **IC201 TDA8172 Vertical Drive Circuit**

(a) IC202 uses a double power source, so it can be viewed as an OCL drive amplification circuit.

(b) Pin 15 of IC304 outputs a sawtooth wave which is input from Pin 1 of IC202 and after being amplified is output from Pin 5 of IC202 to the vertical deflection yoke. R202 through R204 negative feedback to Pin 1 to increase the stability of the circuit.

(c) Pin 3 of C202 is connected to Pin 6 of D212 to make a compensatory circuit in order to reduce power consumption during flyback operations.

6. **Vertical Centering Adjustment**

Since IC202 functions as an OCL circuit, VDC is output from Pin 7 of IC201, so the central current can be changed to shift the on-screen display up or down to prevent voltage fluctuation. After adjusting the power stabilizer at Pin 19 of IC304 TDA9102C (about 8V) with R207, R208, R212 and R211, this is input to Pin 7 of IC202 to change the value of the vertical center.

3.2.3. Pincushion Correction Circuit

1. If the width of the border in the center of the screen is insufficient, the waveform shown in Figure 3-3 below, can be used to add to horizontal deflection B+ in order to change the deflection of the horizontal deflection circuit.

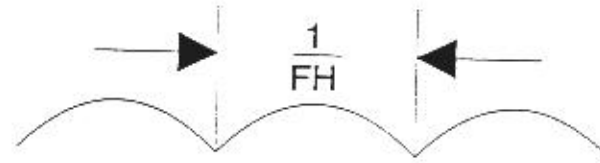
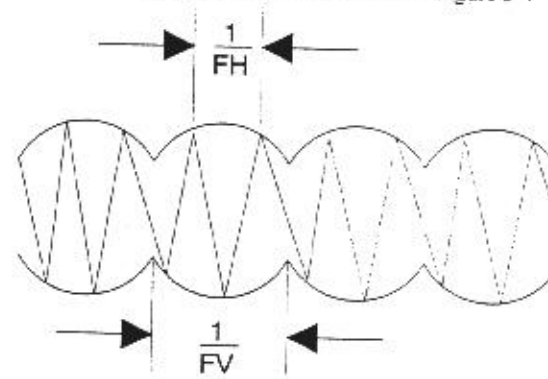


Figure 3-3 Voltage Correction Wave

This waveform is the parabola obtained after regulation of the vertical period, and is created to perform amplitude modulation on the horizontal deflection current, as shown in Figure 3-4



FH: Horizontal Frequency
FV: Vertical Frequency

Figure 3-4 Current Correction Wave

2. The sawtooth wave is output from Pin 15 of IC304 and through IC305 TDA4950 for integration regulation into a parabola. It is output from Pin 5 of IC305 and passed through C354 and R360 and input to Pin 2 of IC302. It is then output from Pin 1 of IC302 and after being sent to Q353's collector output, is added to horizontal B+ to provide pincushion distortion correction.

3.2.4. IC305 TDA4950 Circuit Operation

1. TDA4950 consists of a comparator, a wave regulator and a current limiter.
2. The sawtooth wave from Pin 15 of IC304 passes through R406 and R407, coupled to Pin 2 input, with Pin 3 being a fixed reference current, and after VDC conversion in R393 achieves KEYSTONE compensation.
3. The H-sync signal (output from Pin 6 of T302) is input, passes through R397 D374 and C393, generates a sawtooth wave which is input to Pin8 of IC305. It can output a DC value(0~5V)

from Pin12 of IC307, passes through R394 Q359 coupled to Pin8 of IC305, then can change the DC level of the sawtooth wave, and after passing through Pin 1 and Pin 2 of the wave regulator, a fixed parabola wave is generated at Pin 7 (in order to adjust the waveform at Pin 7, the VDC of the sawtooth wave at Pin 8 must be the same as the VDC of Pin 7. Please refer to Figure 3-5.

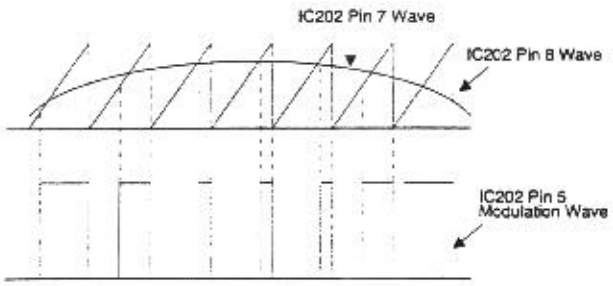


Figure 3-5 IC305 Pin 7 and Pin 8 Waveform

After the waveform has been modified, although the horizontal frequency is not the same, the waveform output at Pin 5 is not the same, and for this reason can be used to correct pincushion distortion. The waveform output from Pin 5 of IC305 is a square wave, and passes through C360 and C354 and is coupled to Pin 2 of IC302.

3.2.5. Structure of Horizontal Deflection Circuit

The function of the horizontal deflection circuit is to cause left/right scanning of the electron beam using the sawtooth wave current flowing through the horizontal deflection yoke, and is made up of the horizontal oscillator circuit, horizontal drive circuit, horizontal output circuit, synchronous AFC circuit and high voltage generator circuit.

1. **Horizontal Drive Amplifier**
   In order to rapidly saturate the output transistor (ON) or cut it off (OFF), a sufficient basic current must be provided. Because of this, an amplifier circuit is added between the oscillator circuit and the output circuit to amplify the pulse voltage. At the same time, after the waveform has been regulated, by adding this circuit to the output circuit, this amplification circuit functions as a drive amplifier.

2. IC TDA9102 consists of a vertical sawtooth wave generator, horizontal sawtooth wave generator, horizontal oscillator circuit, vertical oscillator circuit, AFC circuit, phase regulator circuit, X-RAY circuit and drive amplification circuit. This IC includes the vertical and horizontal circuits combined in one package.

When the horizontal signal is sent to Pin 8 of the AFC circuit and receives a pulse back to Pin 4 from the horizontal output, the difference between these two phases is used to calculate the Automatic Frequency Control (AFC) voltage, and control the frequency of the horizontal oscillator circuit at Pin 8 through R398 R303 C322 and ZD308. The horizontal frequency is determined by the time constant of R384 R385 and C382, and is output from pin 7, coupled through T301, and supplies the base current for the horizontal output transistor Q301. This is the basic procedure of horizontal deflection.

3. **Horizontal Output Circuit**
   The horizontal output circuit uses the switch operation of a transistor and a damping diode, and provides a sawtooth wave current to the deflection yoke. The horizontal deflection yoke is made up of the L value on the coil and resistance r inside the coil connected in series. Its resistance is extremely small, and the time constant (L/r) is extremely large. Because of this the voltage at the two terminals of the coil cause rapid variation in the current flowing in the coil still will slowly vary, creating a sawtooth current. The basic circuit and equivalent circuit are shown in Figures 3-6 and 3-7.

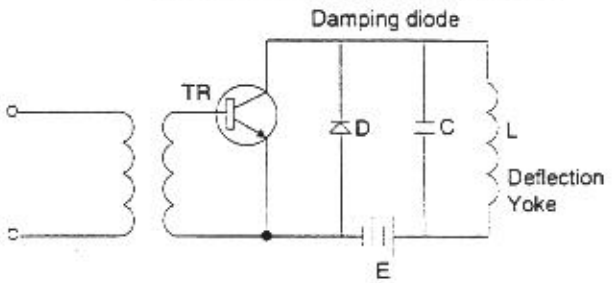


Figure 3-6 The Basic Deflection Circuit

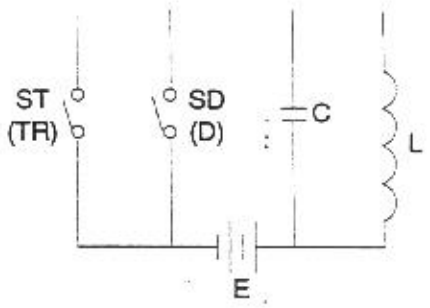


Figure 3-7 Equivalent Circuit

4. **Horizontal Output Circuit Operation**
   Refer to Figure 3-8 above for the current wave of the voltage of the horizontal output circuit during operation.

   (a) t1 — t2 Period
   The base of the output transistor is added to the forward bias voltage. As the current through the base is very large, it will cause the output

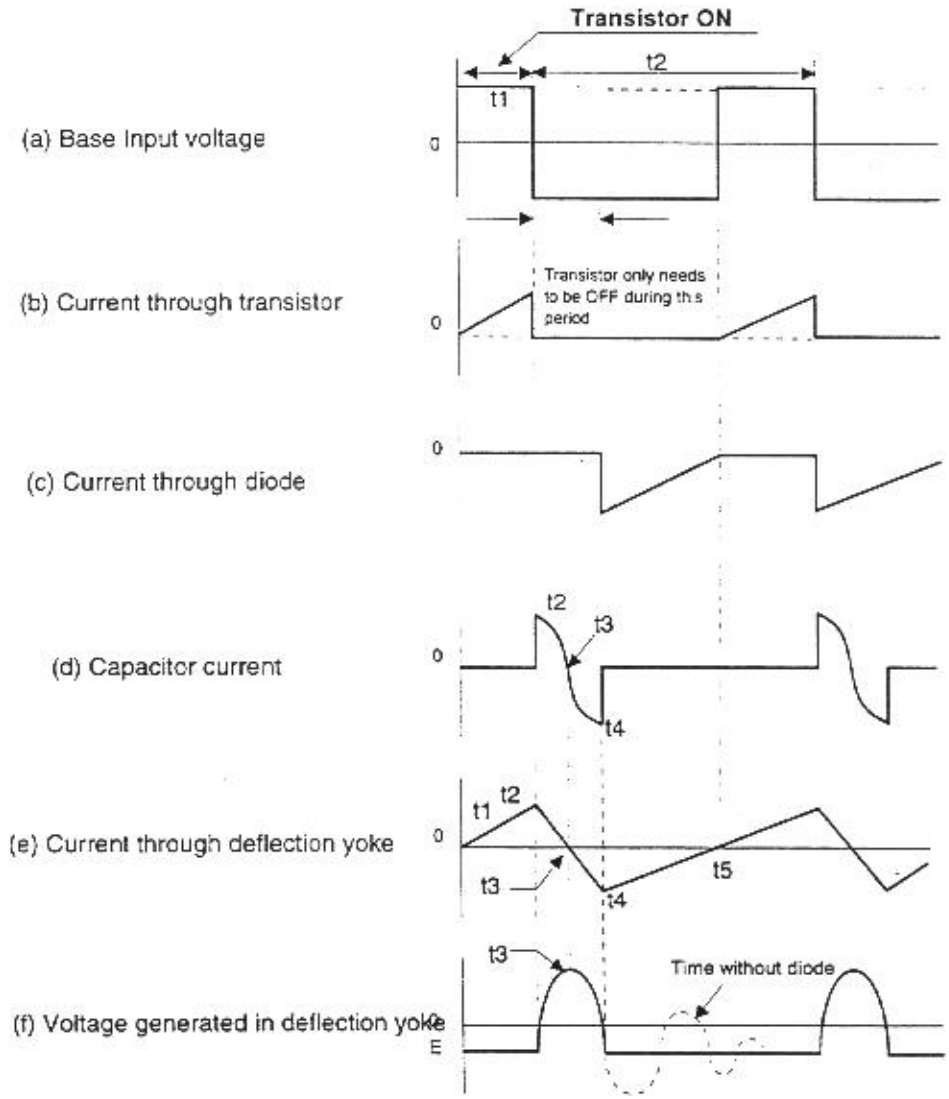


Figure 3-8 Horizontal Output Voltage/Current Waves

transistor to be saturated, corresponding to the ON state of S1 in the equivalent circuit. At this time the deflection yoke contains a current flow and because the time constant is large, the current will slowly show a linear increase as shown in Figures 3-8 (b) and 3-9 (a).

(b) t2-T3 Period

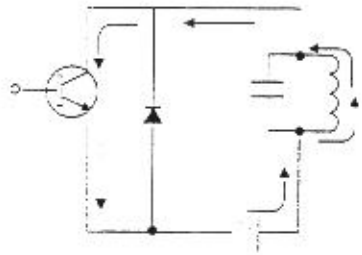
At t2, a negative load is applied to the to the base and the output transistor changes to OFF (S1 in open state). There is no current passing through the transistor at this time and the L and C components of the deflection yoke become independent oscillation circuits. If the current is suddenly cut off, then the polarity of the inverse voltage generated at L will be as shown in Figure 3-9, (b). This voltage is viewed as the source voltage and will cause current to flow, at which time the current flowing to C is as shown in Figure 3-8 (d). At time t3 this current is 0 but the voltage at the two capacitor terminals is at maximum. This waveform is known as flyback pulse, and is shown in Figure 3-8 (f).

(c) (t3 — t4) Period

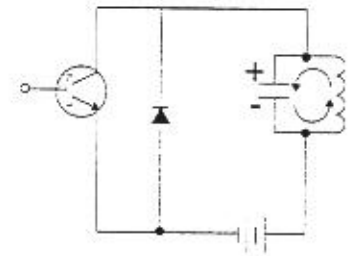
The energy accumulated in C is released to the deflection yoke, the direction of the current flow being shown in Figure 3-9 (c). The current increases as the voltage on C decreases, and at time t4, the voltage of C is 0, at which time the current is at maximum, which means the current flowing into the deflection yoke is also maximum. C is then charged and if a damping resistor is not connected, the energy between L and C will be reversed, which is the oscillation frequency set by the oscillator at L and C.

(d) t4 — t5 Period

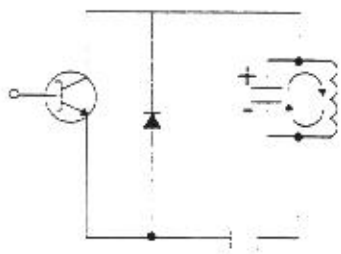
At t4, the voltage of C is 0. After this it is recharged in the opposite direction and this voltage exceeds the voltage of the power source at time t4. At this time the damping diode is ON and the L and C circuits are shorted out and stop oscillating. Because of this the time constant of r and L in the damping diode is large so the current flowing in the deflection yoke does not suddenly become 0.



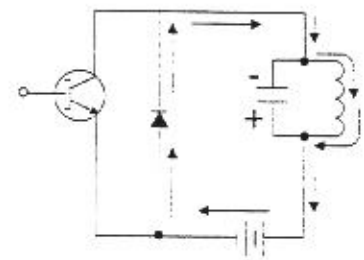
(a) Second half of scanning period (t1 - t2)



(b) First half of return line period (t2 - t3)



(c) Second half of return line period (t3 - t4),



(d) First half of scanning period (t4 - t5)

Figure 3-9 Polarity of Transformer Voltage

The current shows a linear decrease, and when it becomes 0 at time t5 the transistor is ON and the operation described above is repeated.

(e) As described above, the current flowing in the deflection yoke during scanning is the sum of the current which has passed through the transistor and the damping diode current. Please refer to Figure 3-8(e).

3.2.6. Horizontal Size Control Circuit

1. The different DC value output from Pin 9-10 of IC307 passes through the distributed voltage from R359 and R358 achieves one fixed DC value which is sent to Pin 3 of IC302, so the VDC from Pin 9-10 of IC307 is not the same, causing Pin 1 of IC302 to output a different DC volue, after passing though the buffer, collector of Q353, output to Q354 Q355 Darlington current amplification though L304 to adjust the current though H-DY's current value achieving size control.

3.2.7. X-RAY Protection Circuit

1. The feedback pulse from T302 F.B.T is regulated through D373 to obtain a DC voltage and the appropriate set voltage is distributed by R337 and R339. When the feedback pulse voltage exceeds the set voltage, the +15v output form Pin 7 of IC303, after passing through D371, R401 and input to Pin 8 of IC304. Because of this, IC304 TDA9102C is OFF, so there is no vertical or horizontal sync output form Pin 7,15 of IC304 and the monitor shuts down.

3.2.8. Horizontal linearity and CS Switching

Switching Cs is necessary to ensure the lines are in accordance with the specifications in multi-sync monitors.

- For frequencies 68~53 kHz, RL301 is on and Q302 is OFF and CS is C311.
- For frequencies 53~42 kHz, RL301 is ON and Q302 is ON and CS is C313 and C311.
- For frequencies 42~36 kHz, RL301 is OFF and Q302 is OFF and CS is C311 and C324 in parallel.
- For frequencies 36~29 kHz, RL301 is OFF and Q302 is ON and CS is C311 C313 and C324 in parallel.

On	Pulses	Pulses	1	1
Standby	No Pulses	Pulses	0	1
Suspend	Pulses	No Pulses	0	0
Off	No Pulses	No Pulses	0	0

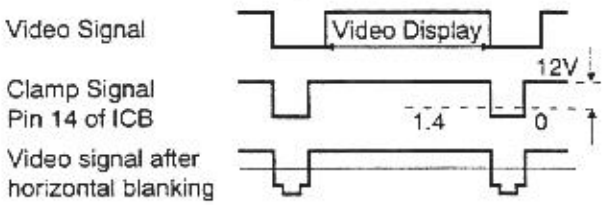
SCAP1	H	L	H	L
SCAP2	H	H	L	L

3.3. Video Amplifier

The RGB video and sync signals are supplied through a video cable directly to the Video Board at connector P501. The RGB signals are terminated in 75 ohms by R501 and R503, R505 and R506.

The RGB signals then enter an LM1207 video pre-amplifier IC, providing synchronous black level clamping, variable picture contrast (gain) and RGB gain balance for color alignment. Separate gain control voltages for the three pre-amplifier channels are provided via R556, R557 and R558 from the TDA8444 DAC which is loaded by the microcontroller via the I2C bus. These inputs enable the individual gains of each channel to be varied to allow channel gain balance. In addition, a common signal is applied on pin 12 to adjust all three channels by the same amount, to allow for overall gain or contrast control.

A synchronous clamping signal is derived from the horizontal sync pulse by one half of IC504. This takes the trailing edge of the horizontal sync pulse, differentiates it through C531, then squares it via the monostable feedback action of C525 and R513 to provide a precise length digital clamping pulse which is applied IC503 via pin 14. The timing is shown in Figure 3-10, below.



NOTE:

A. Clamp1 signal is generated from flyback time.

B. When the Clamp1 signal is less than 1.4Vp-p, the IC's internal clamp loop will operate; when greater than 1.4Vp-p, it will not operate.

Figure 3-10 Timing of Pin 14 Clamp Signal

The outputs of the video pre-amplifier are fed to IC501, a hybrid power amplifier IC type LM2419, through resistors R524, R526 and R528. In addition, On screen DIsplay video information generated by IC502 can be injected via diodes D513, D514 and D515.

IC501 amplifies the video signals to around 35Vp-p. The outputs are AC coupled to the CRT cathodes via C523, C512 and C513. In order to bias the DC level of the cathodes correctly, the AC coupled signal is DC restored by clamping to a DC voltage which can be varied under microprocessor control. Considering Red channel output on IC501 as an example, the signal is clamped by D517 to the voltage set by the two transistor amplifiers formed by Q502 and Q501, which amplify the adjustable voltage at the output of the DAC. A similar stage can be seen for the green and blue channel outputs.

When the RC video signal amplification circuit is added for amplification, this waveform will change as shown in Figure 3-11 (a). Without the DC component, as shown in Figure 3-12 (b), the DC level of darker and brighter displays will be different, so when this kind of signal without a DC component is sent to the CRT, it will cause the contrast of the image to change as the signal changes. Therefore, Q501, Q502 and D517 serve as a DC clamp and the CRT's anode DC voltgae can be adjusted by the DAC.

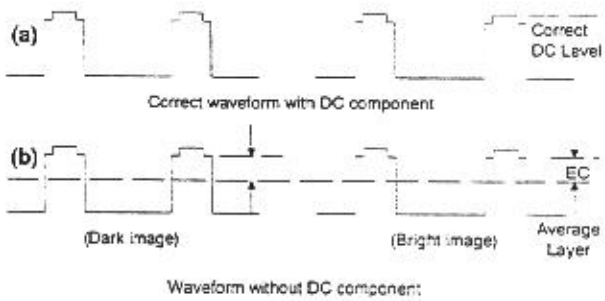


Figure 3-11 Effect of DC Component on Waveform

IC502 is an On Screen Display processor. This is a simple video generation IC that has its own crystal oscillator, X501. by using an internal Phase Locked Loop (PLL) the IC can sync to the incoming vertical and horizontal oscillator frequencies and produce the OSD video signals once initialized and loaded by the commands and data received on the I2C bus. When the OSD display is activated, the blanking output of the IC502 also sends a signal to the blanking input of IC503 (pin 13) to provide an optional black background for the OSD display.

The RGB signals are amplified to drive the CRT by an LM2419 hybrid amplifier and capacitively coupled to the cathodes.

Brightness control is achieved by varying the bias of G1 of the CRT via a transistor stage formed by Q507 which is also driven by an output of the TDA8444. Horizontal and vertical blanking signals are coupled into this amplifier to prevent visible retrace lines.

3.4. Microprocessor And Sync Processing

The microprocessor is an 80C51 type. It has 8k internal masked ROM which contains a basic communication 'boot' routine and various other simple routines. It is also used to store the OSD icon bit maps. The main firmware routines and variable data are stored in the 8k external EEROM, IC702.

When the micro is instructed via the RS232 bus, the internal ROM boot routine will load up the EEROM with program data from the RS232 bus. Thus it can be made to load its own firmware. From then on it will run jointly out of EEROM and internal ROM. Another important routine within the internal ROM is the routine which allows data writes to made to the EEROM. This must be resident in the micro as it cannot run from the EEROM whilst writing data. IC705 and IC704 control the addressing and I/O port selection from the micro.

IC706 allows the micro to scan the front user interface switch matrix. Also specialized ports P1.6 and P1.7 form the IIC bus

interface which is used internally to set the DAC values and the OSD IC.

The micro also drives the sync selection circuits. IC708 is used to set the polarity of the incoming sync signals. IC703 allows the micro to sample the vertical and horizontal syncs and to select the correct polarity on the outputs HSYNC and VSYNC appropriately. In addition, whilst sampling the polarity, the micro can measure the frequency of both syncs. By suitable selection of HSYNC and VSYNC control lines, IC703 can also select the signals derived on HDR and VRET. These two signals come from the horizontal and vertical oscillators. By measuring these with the internal timers, the micro can set up the oscillators for optimum lock to the sync signals. It does this when ever a mode change occurs.

A mode change is detected by either a change in vertical frequency, which is monitored by firmware, or by a sudden change in horizontal frequency. IC712 is clocked and reset by the horizontal sync pulse and the HDR line. If any sync pulse is not matched by a HDR pulse then an interrupt is created on the MODEC line.

When power is disturbed to the unit, the power reset line goes low. This also causes an input to the micro via the MODEC line. On detecting this interrupt, the micro first checks inputs P1.3 and P3.5. If these are also low, then it knows the MODEC interrupt was caused by an impending power failure. In this case the micro saves the current RAM data in EEROM and prepares for power off. The RESET line is delayed for 10ms by R717 and C722 to allow time for the data to be saved. The REST line then holds off the micro and the EEROM until power is good once more.

If the front panel ON/OFF button is pressed, a MODEC interrupt is also created. This time only P3.5 is pulled low so the micro can detect that the interrupt was from the front panel. In this case the micro saves the data but flips the bit which stores the last power on state. The micro is then reset. When the reset disappears the micro bring up the power in the opposite state to before, i.e., if the power was off before then power is now on. In this way the front user on/off switch can toggle the on/off state and also always act as a micro reset switch.

3.4.1. DAC Assignments

The DAC assignments are shown in the table below.

DAC	Addr. Bits A2 – A1 – A0	Ref. Designator	Function
DAC 0-0	0 – 0 – 0	IC306 pin 9	H PHASE1
DAC 0-1	0 – 0 – 0	IC306 pin 10	VSIZE2
DAC 0-2	0 – 0 – 0	IC306 pin 11	VSIZE1
DAC 0-3	0 – 0 – 0	IC306 pin 12	HF1
DAC 0-4	0 – 0 – 0	IC306 pin 113	HF2
DAC 0-5	0 – 0 – 0	IC306 pin 14	HPHASE
DAC 0-6	0 – 0 – 0	IC306 pin 15	PARALLEL-OGRAM (TILT)
DAC 0-7	0 – 0 – 0	IC306 pin 16	VPOS
DAC 1-0	0 – 0 – 1	IC307 pin 9	WIDTH1
DAC 1-1	0 – 0 – 1	IC307 pin 10	WIDTH2
DAC 1-2	0 – 0 – 1	IC307 pin 11	ROTATE
DAC 1-3	0 – 0 – 1	IC307 pin 12	PIN
DAC 1-4	0 – 0 – 1	IC307 pin 13	KEY
DAC 1-5	0 – 0 – 1	IC307 pin 14	VLIN
DAC 1-6	0 – 0 – 1	IC307 pin 15	VFREQ
DAC 1-7	0 – 0 – 1	IC307 pin 16	INHPOS
DAC 0-0	0 – 1 – 0	IC5 pin 9	BRIGHTNESS
DAC 0-1	0 – 1 – 0	IC5 pin 10	G BIAS
DAC 0-2	0 – 1 – 0	IC5 pin 11	B BIAS
DAC 0-3	0 – 1 – 0	IC5 pin 12	R BIAS
DAC 0-4	0 – 1 – 0	IC5 pin 13	R GAIN
DAC 0-5	0 – 1 – 0	IC5 pin 14	G GAIN
DAC 0-6	0 – 1 – 0	IC5 pin 15	B GAIN
DAC 0-7	0 – 1 – 0	IC5 pin 16	CONTRAST

Table 3-1 DAC Assignments

Section 4.
Setup Adjustments

4.1. Preparing the Display for Adjustment 4-1
4.2. Adjustment Procedures 4-1
4.3. High Voltage Verification 4-2
4.4. Background Brightness Setting 4-2
4.5. Screen Brightness Adjust 4-2
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4.11. Performance Adjustments for All Preset Mode 4-3
4.12. Image Performance Verification 4-3
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4.14. Brightness Verification 4-3
4.15. Display Size Starility 4-3
4.16. Color Purity Verification 4-3
4.17. Video Noise 4-3

4.1. Preparing the Display for Adjustment

Before adjusting any the display settings or making final adjustments after service, perform the following pre-test settings to prepare the display for adjustment:

1. Be sure to allow the display to warm up for at least 30 minutes before making any adjustments.
2. When making tests and adjustments, the CRT should be facing east or west to minimize the affect of the earth's magnetic field.
3. Set the contrast control at 80% and the brightness control at 50 % for all tests unless otherwise specified.
4. Thoroughly degauss the entire screen with a manual degausser before proceeding with tests.
5. All test should be performed with the rated power supply voltage unless otherwise specified.

4.1.1. Test Equipment Required

The following equipment will be required to make the tests and adjustments detailed in this section:

- ☐ Video signal and pattern generator.
- ☐ Digital multimeter
- ☐ Degausser

4.2. Adjustment Procedures

4.2.1. Adjustment Sequence

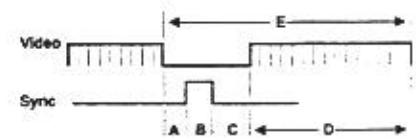
This display undergoes an automatic alignment procedure during manufacture. This alignment procedure follows a fixed sequence of adjustments which are duplicated in this section. When making manual adjustments during service, *you should always make the adjustments in the order given here to ensure correct results.*

4.2.2. Timings Used During Adjustment

The timings required to be imput during alignment consist mostly of the preset timings stored in the display, but one non-preset timing is required for Vertical F/V adjustment. The complete list of standard preset timings and non-preset timing for use in alignment is given in the table below.

IMPORTANT NOTE

The preset timings for different versions of this model may differ from those shown here. Be sure to check the list of preset timings for the unit being serviced.



Mode Number / Preset (Y/N)	Mode 1 Y	Mode 2 Y	Mode 3 Y	Mode 4 Y	Mode 5 Y	Mode 6 Y	Mode 7 Y	Mode 8 Y	Mode 9 Y	Mode 10 Y
Data Pixel	1024	1024	1280	800	800	800	640	640	1024	640
Data Line	768	768	1024	600	600	600	480	480	768	480
H. Freq (kHz)	60.023	58.230	50.000	48.077	46.875	37.879	37.861	37.500	35.520	31.469
V. Freq. (Hz)	75.029	72.245	87.030	72.188	75.000	60.317	72.809	75.000	86.960	59.940
Pixel Rate (MHz)	78.750	75.000	80.000	50.000	49.500	40.000	31.500	31.500	44.900	25.176
Hor. FP µs (A)	0.203	0.320	1.000	1.120	0.323	1.000	0.762	0.508	0.178	0.636
Hor. Sync µs (B)	1.219	1.813	1.000	2.400	1.616	3.200	1.270	2.032	3.920	3.813
Hor. BP µs (C)	2.235	1.387	2.000	1.280	3.232	2.200	4.064	3.810	1.247	1.907
Hor. Active µs (D)	13.003	13.653	16.000	16.000	16.162	20.000	20.317	20.317	22.810	25.422
Hor. Total us (E)	16.660	17.173	20.000	20.800	21.333	26.400	26.413	26.667	28.151	31.778
Ver. FP ms (A)	0.017	0.052	0.500	0.770	0.021	0.026	0.238	0.027	0.000	0.318
Ver. Sync ms (B)	0.050	0.103	0.100	0.125	0.064	0.106	0.079	0.080	0.113	0.064
Ver. BP ms (C)	0.466	0.498	0.650	0.478	0.448	0.607	0.740	0.427	0.563	1.048
Ver. Active ms(D)	12.795	13.189	10.240	12.480	12.800	15.840	12.678	12.800	10.810	15.253
Ver. Total ms (E)	13.328	13.842	11.490	13.853	13.333	16.579	13.735	13.333	11.485	16.683
Polarity (H,V)	+,+	-,-	+,+	+,+	+,+	+,+	-,-	-,-	+,+	-,-

Table 4-1 Preset Timings

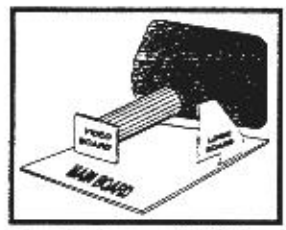
IMPORTANT NOTE

The adjusment settings in this section are based on *REVISION B* of the factory alignment procedures. Appendices detailing changes in the factory alignment procedures that have occurred since publication of this service manual are available upon request.

Initial settings to be carried out manually prior to automatic alignment:

4.3. High Voltage Verification

1. Check that the 75V voltage is 75V±0.1. Adjust VR1(see Figure 4-1 for location) to correct if necessary.
2. Input a cross hatch pattern in 60.024kHz 1024x768 mode and adjust VRP1 on the mainboard(see Figure 4-1 for approximate location) so the high voltage is in the range 26kv±0.3kv.



Location of PCBs

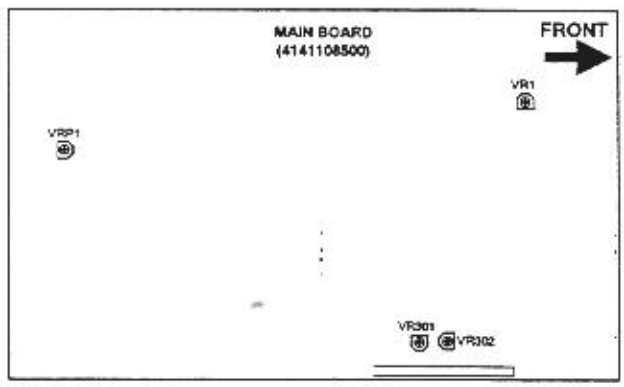


Figure 4-1 Location of Mainboard

Steps used in white balance adjustment:

4.4. Background Brightness Setting

1. Input a mode in 60.023kHz 1024x768 and turn external brightness to maximum. With video input at 0V, adjust the SCREEN VR so background brightness is approximately 1.5FL±0.1FL.
2. Before carrying out white balance adjustment, make sure that the display size and linearity are in spec.

4.5. Screen Brightness Adjust

1. Input a 60.023kHz 1024x768 mode timing with no video input . Adjust VR301 and make ABL no action and adjust external brightness to 0.08FL.
2. Input a full white pattern, set external contrast to maximum and adjust VR302 and check that brightness at the center of the screen is in the range 32FL±1FL. Input a full white pattern, set external brightness to maximum and adjust VR301 and check that brightness at the center of the screen is in the range 36FL±1FL.

4.6. Magnetic Field Configuration

1. Configure the magnetic field as follows:
   - ☐ Northern hemisphere: H=0.01, V=0.45
   - ☐ Southern hemisphere: H=0.01, V=-0.52

4.7. Tilt Verification

1. Input a cross hatch pattern in 60.023kHz 1024x768 mode and use the tilt rotation key to ensure that tilt is less than 1mm.

4.8. Focus Verification

1. Input a full white pattern in 60.023Hz 1024x768 mode. Use the external brightness control to adjust background brightness so it is not visible and set external contrast so the brightness is 30FL. Switch to a display of "@" characters.
2. Adjust the FBT focus VR1 and VR2 so the @ characters are as clear as possible.

4.9. Color Misconvergence

1. Input a full white pattern in 60.023kHz 1024x768 mode and adjust external brightness so there is no background brightness and external contrast so the screen brightness is 30FL.
2. Switch to a cross hatch pattern and verify that misconvergence in a circle measured from the center of the screen(Area A) is not greater than 0.3mm, and for all areas outside Area A is not greater than 0.4mm.

Automatic camera alignment procedure:

The procedures listed below are those carried out using the automatic Camera Alignment System(CAS). These adjustments cannot be made manually but must be performed using the CAS software provided by the manufacturer.

4.10. Primary Test Mode(56.47kHz 1024x768 mode)Performance Adjustments

1. **H. RASTER CENTERING**
   Raster area centered horizontally in the bezel.
2. **V. RASTER CENTERING**
   Raster area centered vertically in the bezel.
3. **ROTATION(TILT)**
   Raster area aligned with bezel.

4.11. Performance Adjustments for All Preset Modes

1. **H POSITION**
   Centers the display horizontally in the raster area (L-R<=1mm).
2. **H SIZE**
   Configures display width as 300±3mm.
3. **V POSITION**
   Centers the display vertically in the raster area (T - B<=1mm).
4. **V SIZE**
   Configures display height as 225±3mm.
5. **V. Linearity**

   Configures vertical linearity as less than 8%.
6. **PINCUSHION**
   Sets left and right pincushion distortion to less than 1.5mm.
7. **KEYSTONE**
   Sets upper and lower keystone distortion to less than 1.5mm.
8. **PARALLELOGRAM**
   Sets parallelogram distortion to less than 1.5mm

Conclusion of automatic alignment:

4.12. Image Performance Verification

Input each of the preset timings and check that the following specifications are met:

1. **Horizontal Position**
   L - R ≤3mm
2. **Horizontal Size**
   300 ±3mm.
3. **Vertical Position**
   T - B ≤3mm
4. **Vertical Size**
   225 ±3mm.
5. **Horizontal Linearity**
   H ≤ 10% (10x8 cross hatch pattern)

   This calculation is based on the following formula:

$$\frac{Max - Min}{Max} \times 100\% \leq 8\%$$

6. Vertical Linearity
   V≤8.0% (10x8 cross hatch pattern).

$$\frac{Max - Min}{Max} \times 100\% \leq 8\%$$

7. **Recall Button Function**
   Adjust H/V phase and size at random using the external controls and press the recall button. Check that the image performance has returned to be in spec, which will indicate the Recall button is functioning correctly.

4.13. Uniformity Verification

1. Input a 2" square pattern in 60.023kHz 1024 x 768 mode, set contrast to maximum and check that there is no overshoot. Check that the brightness in the four corners of the screen is not less than 70% of that in the center of the screen.

4.14. Brightness Verification

1. Input a 60.023kHz 1024x768 mode timing with no video input. Adjust external brightness to 0.08FL.
2. Input a full white pattern and adjust external contrast to maximum then check that brightness at the center of the screen shall be more than 30FL. adjust external brightness to maximum and check that brightness at the center of the screen is 36FL±3FL.

4.15. Display Size Stability

1. Inputer a full white pattern in 60.023kHz 1024x768 mode, set external brightness at 5FL and measure the display size. adjust the brightness to 30FL and remeasure the display size. The difference should be less than 2.0mm.

4.16. Color Purity Verification

1. Input a full white pattern in 60.023kHz 1024 x 768 mode and adjust external brightness so there is no background brightness and adjust external contrast to 25FL. Make a visual check of color purity as follows:

   a) Input the red (R) signal only; no green (G) or blue (B) should be visible.

   b) Input the G signal only; no R or B should be visible.

   c) Input the B signal only; no R or G should be visible.

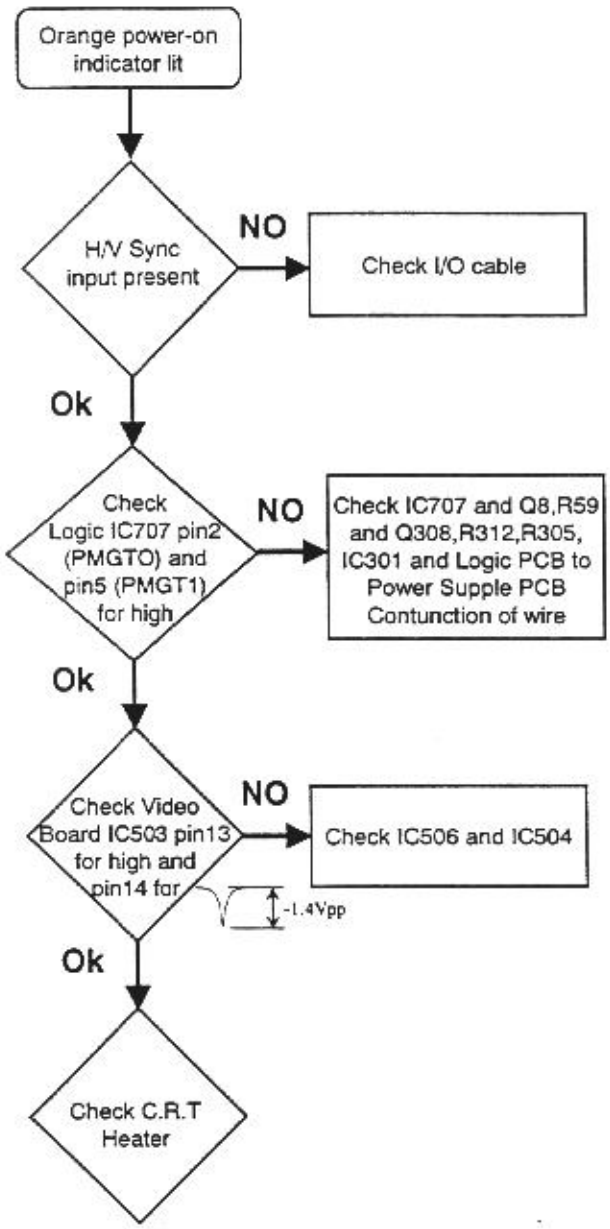
4.17. Video Noise

1. Input a cross hatch pattern or full white pattern in 60.023kHz 1024x768 mode and make a visual check from a distance of 48.3cm (19 inches) for any video noise or other on screen interference.

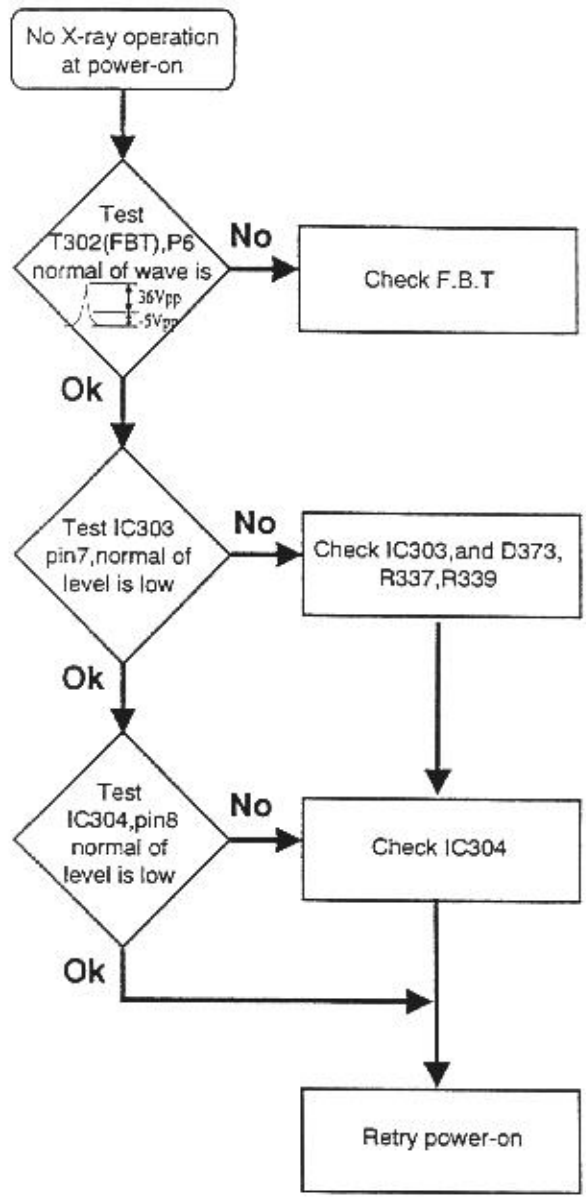
Section 5.
Troubleshooting

5.1. No Display at Power-on 5-1
5.2. No X-ray Operation 5-2
5.3. No Video Operation. 5-3
5.4. Poor Vertical Linearity 5-4
5.5. Poor Uniformity 5-5
5.6. Tilted Display Area 5-6
5.7. Misconvergence 5-7

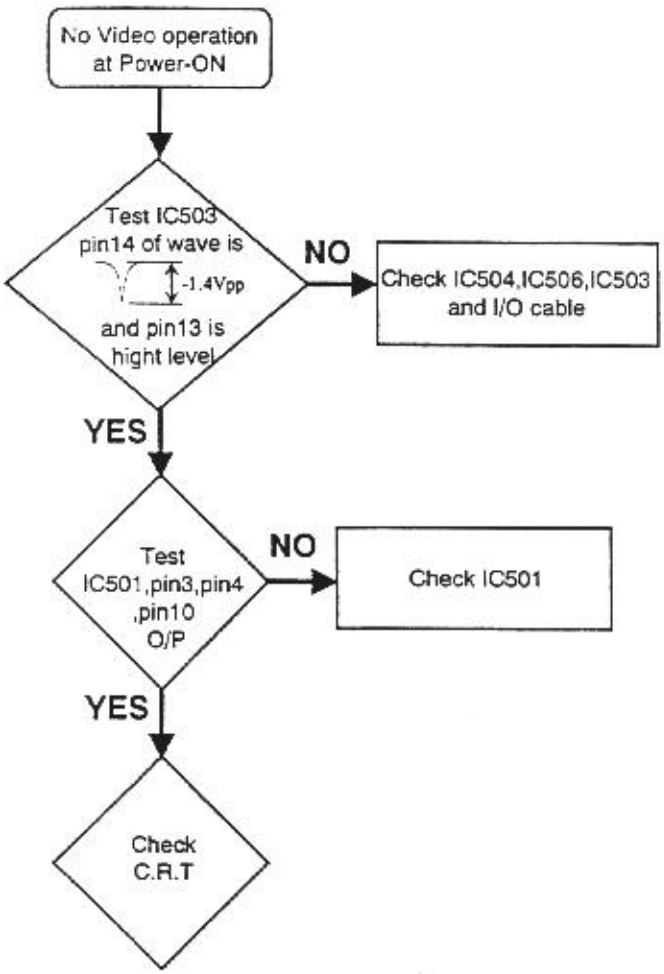
5.1. No Display at Power-on


Orange power-on indicator lit
H/V Sync input present
NO
Check I/O cable
Ok
Check Logic IC707 pin2 (PMGTO) and pin5 (PMGT1) for high
NO
Check IC707 and Q8,R59 and Q308,R312,R305, IC301 and Logic PCB to Power Supple PCB Contunction of wire
Ok
Check Video Board IC503 pin13 for high and pin14 for
NO
Check IC506 and IC504
~1.4Vpp
Ok
Check C.R.T Heater

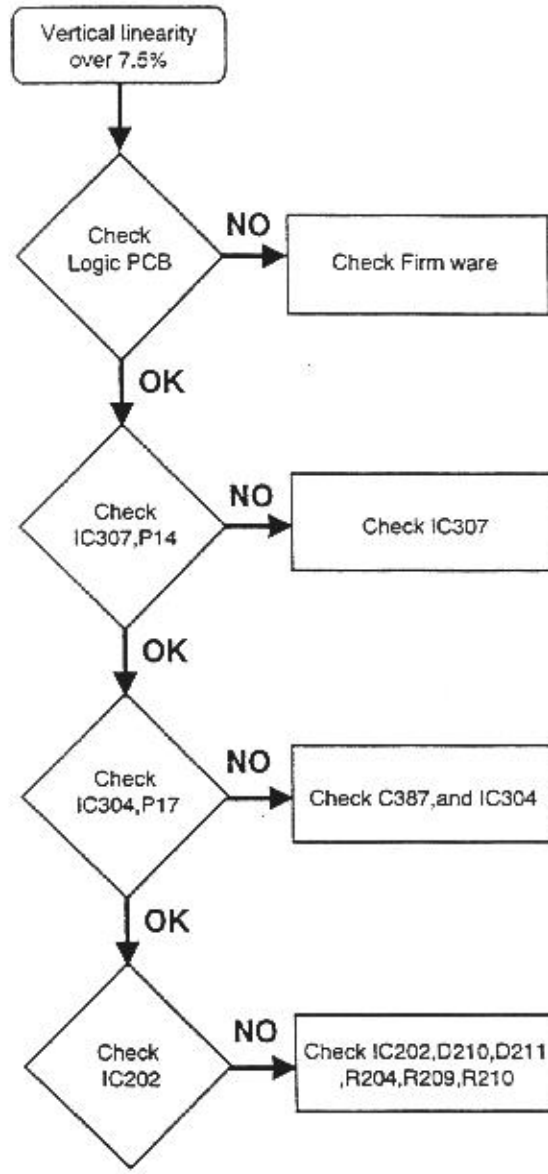
5.2. No X-ray Operation



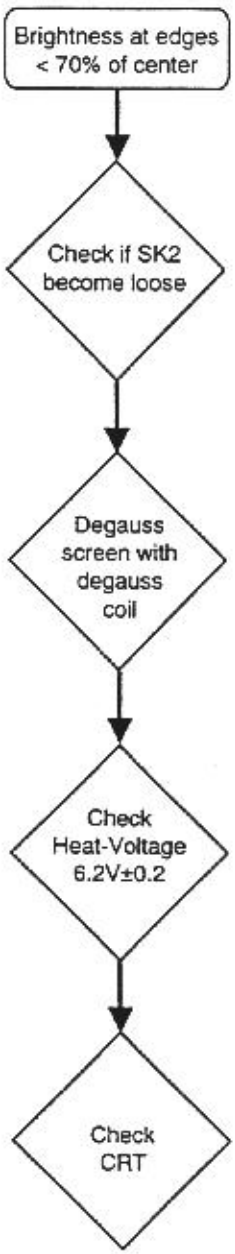
5.3. No Video Operation



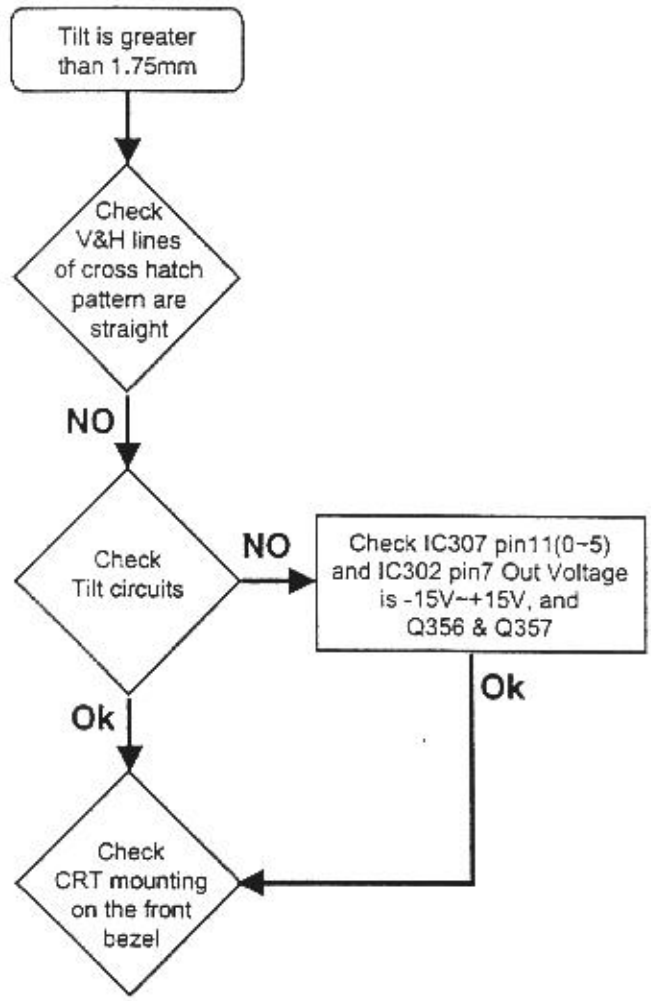
5.4. Poor Vertical Linearity



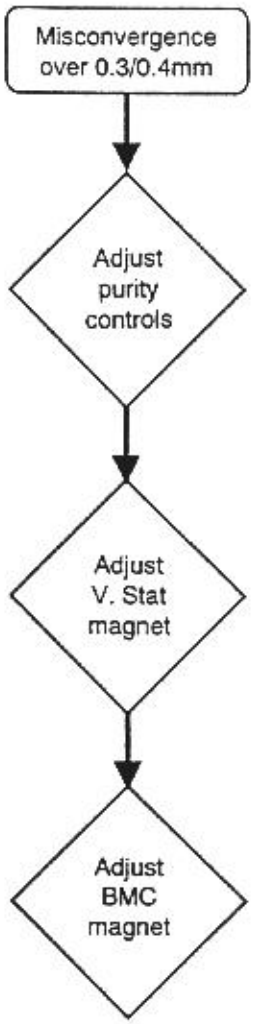
5.5. Poor Uniformity


Brightness at edges < 70% of center
Check if SK2 become loose
Degauss screen with degauss coil
Check Heat-Voltage 6.2V±0.2
Check CRT

5.6. Tilted Display Area


Tilt is greater than 1.75mm
Check V&H lines of cross hatch pattern are straight
NO
Check Tilt circuits
NO
Check IC307 pin11(0~5) and IC302 pin7 Out Voltage is -15V~+15V, and Q356 & Q357
Ok
Ok
Check CRT mounting on the front bezel

5.7. Misconvergence



Section 6.
Printed Circuit Boards

6.1. Main Board 6-1
6.2. Neck Board 6-2
6.3. Logic Board 6-3
6.4. Control Panel Board 6-3

6.1. Main Board

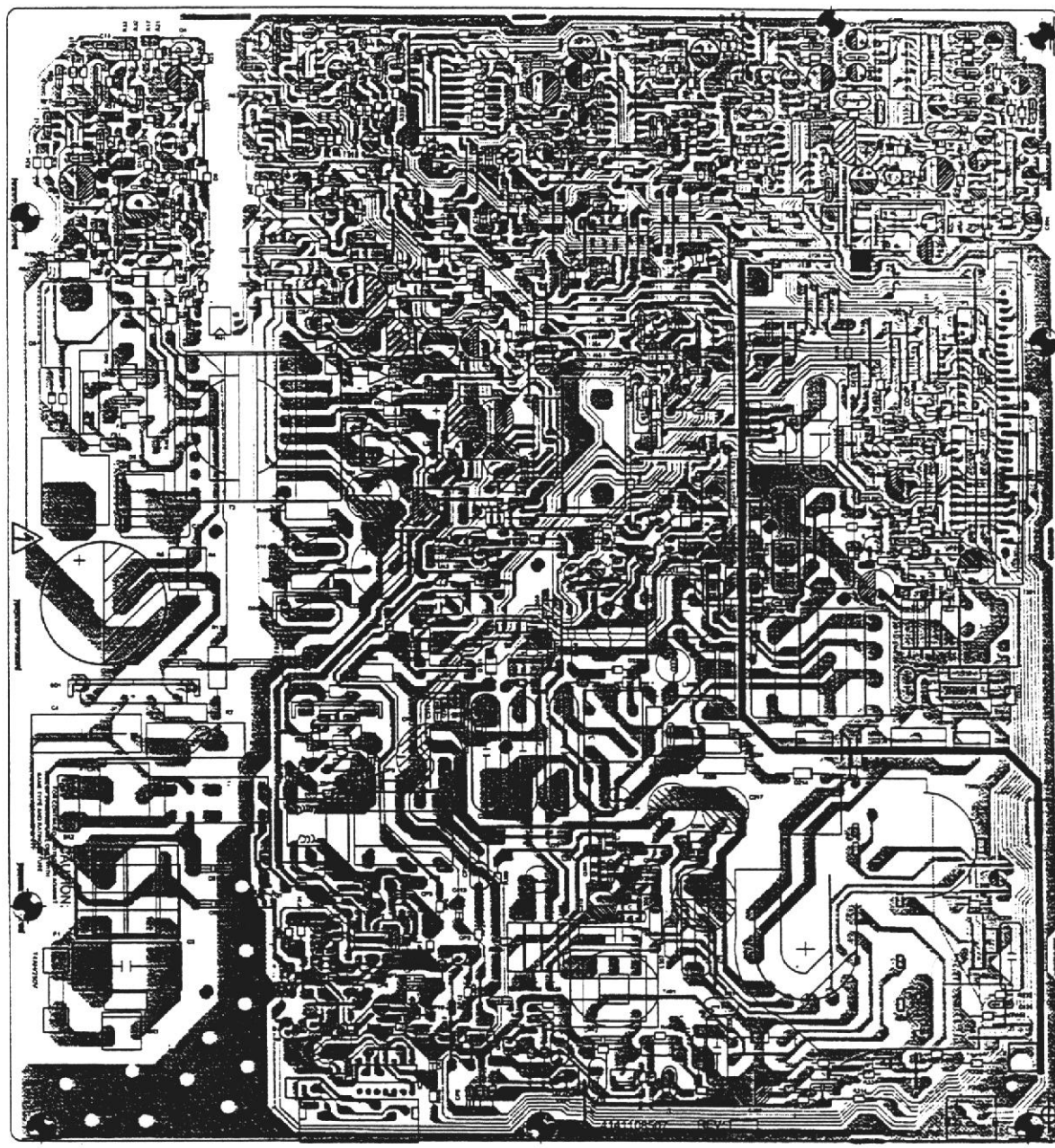


Figure 6-1 Main Board (Solder Side)

6.2. Neck Board

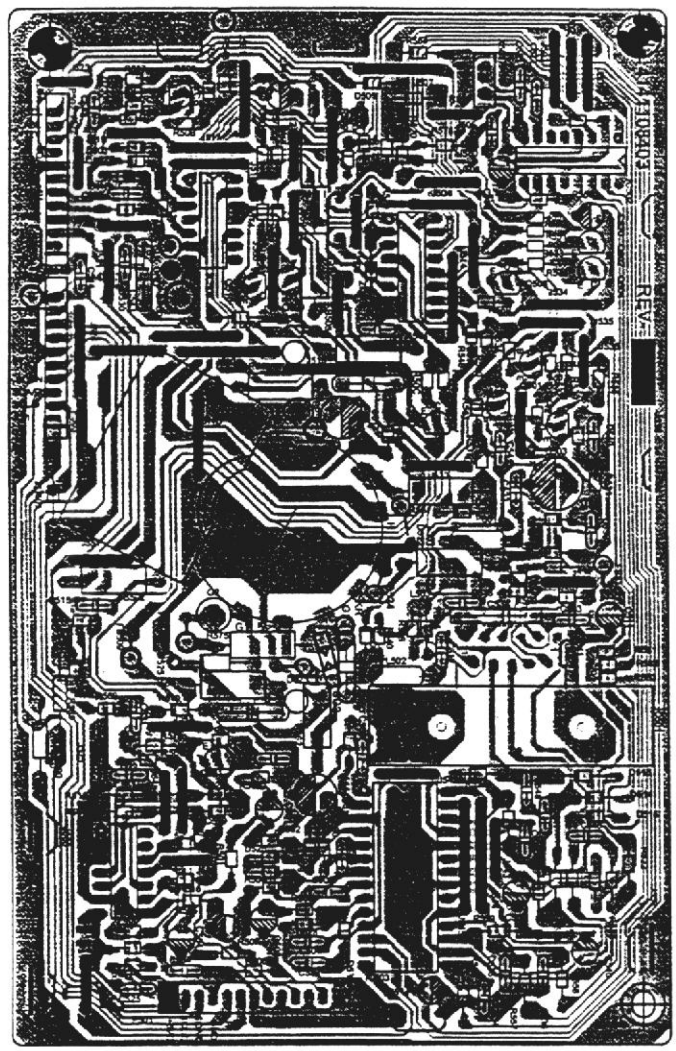


Figure 6-2 Neck Board (Solder Side)

6.3. Logic Board

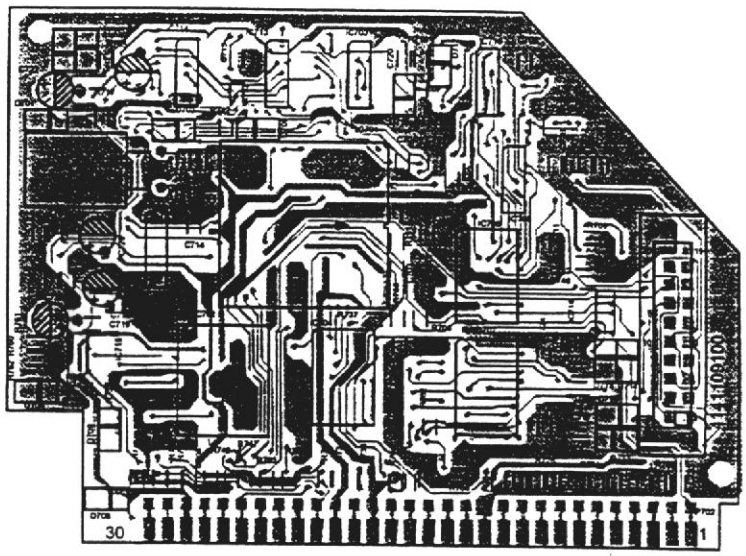


Figure 6-3 Logic Board (Solder Side)

6.4. Control Panel Board

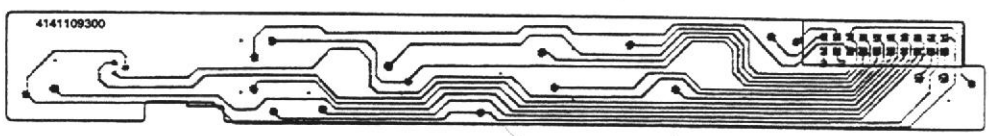


Figure 6-4 Control board(solder size)

Section 7.
Schematic Diagrams

7.1. S/P/S Circuit Diagram 7-2
7.2. Video Circuit Diagram 7-3
7.3. Logic Circuit Diagram 7-4
7.4 Deflection Circuit Diagram 7-5

7.1. S/P/S Circuit Diagram

Please refer to the attached circuit diagram.

7.2. Video Circuit Diagram

Please refer to the attached circuit diagram.

7.3. Logic Circuit Diagram

Please refer to the attached circuit diagram.

7.4. Deflection Circuit Diagram

Please refer to the attached circuit diagram.

Section 8.
Mechanical Parts

8.1 Exploded View 8-1
8.2 Key to Exploded View 8-2

8.1. Exploded View

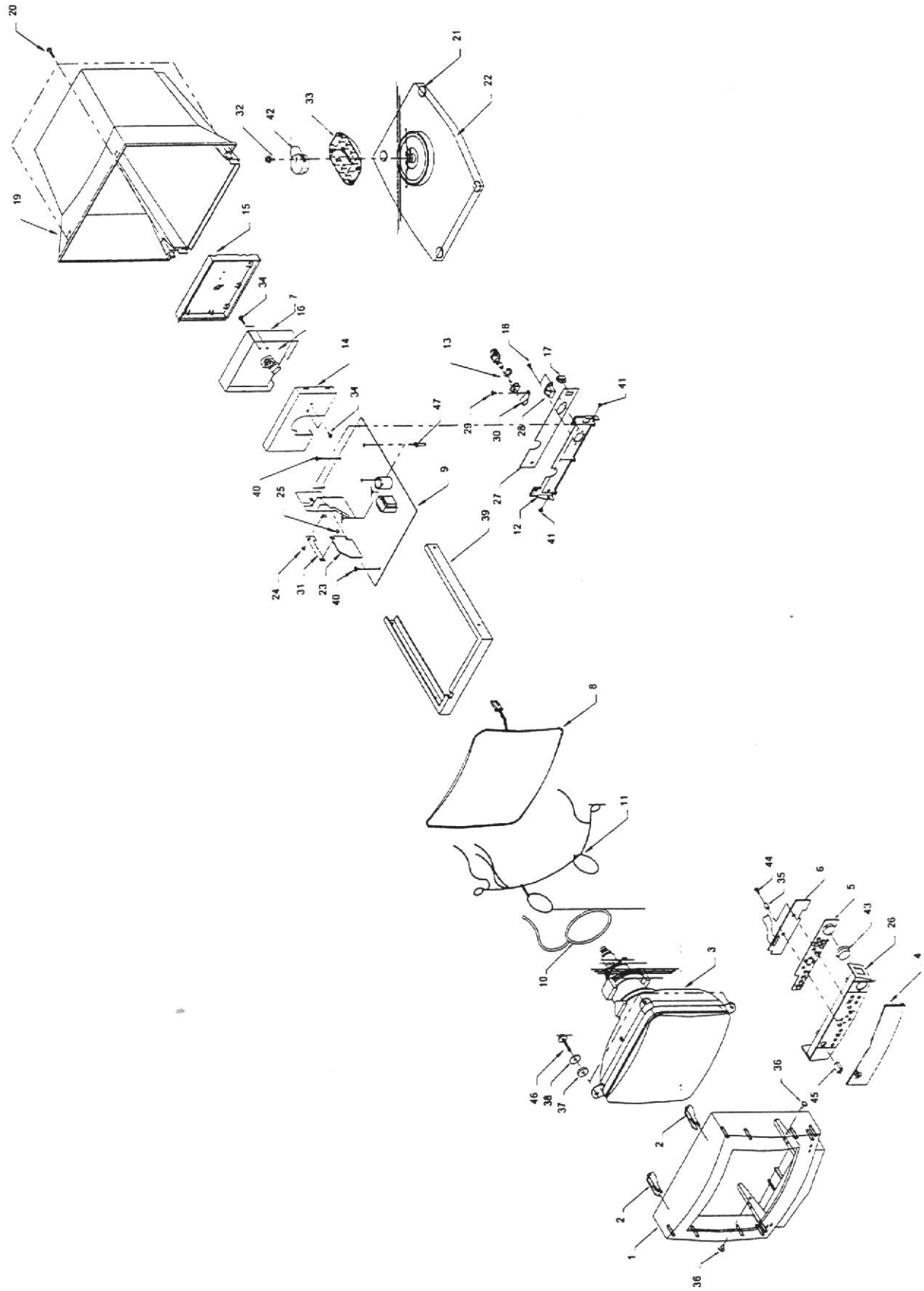
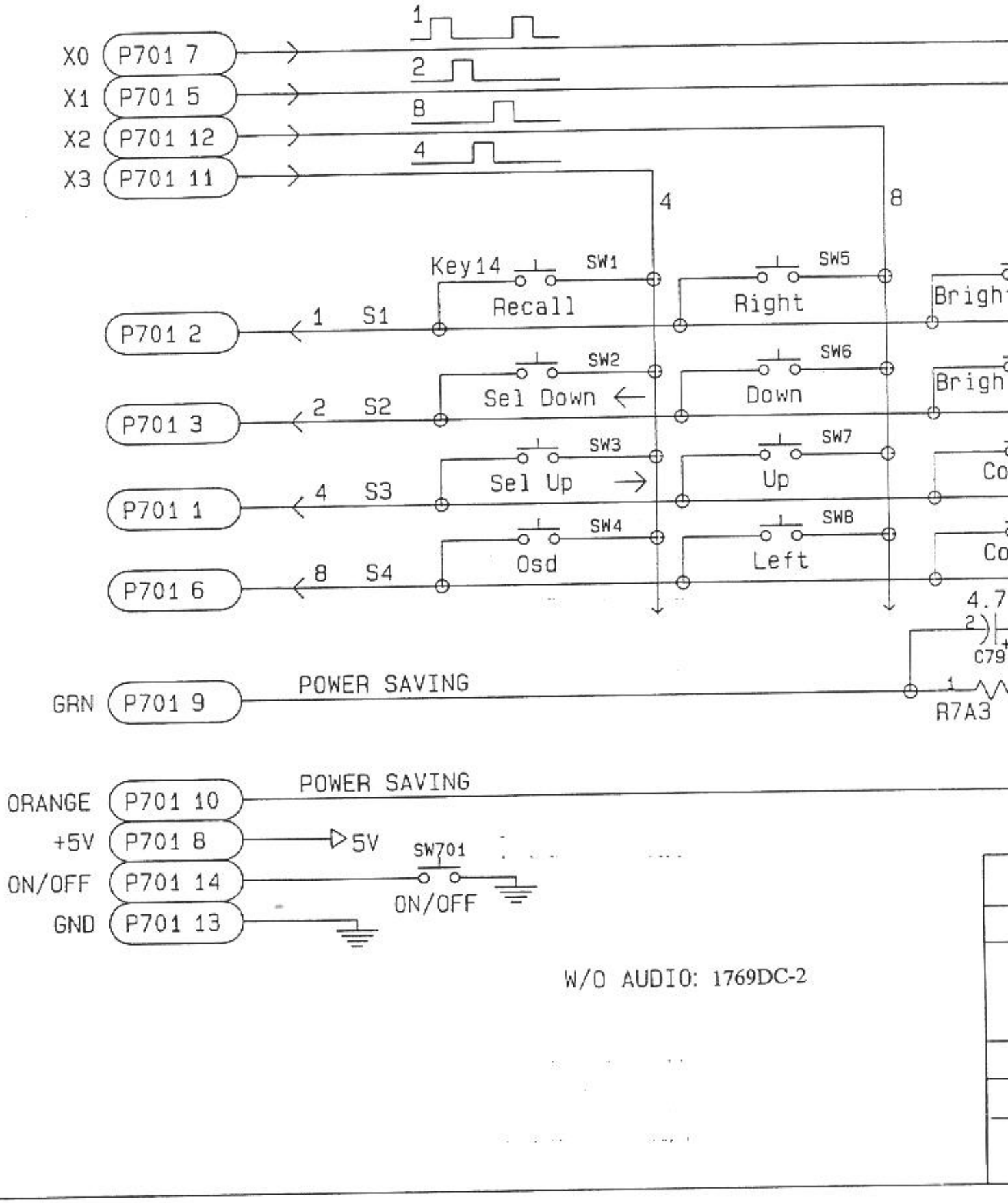


Figure 8-1 Exploded View

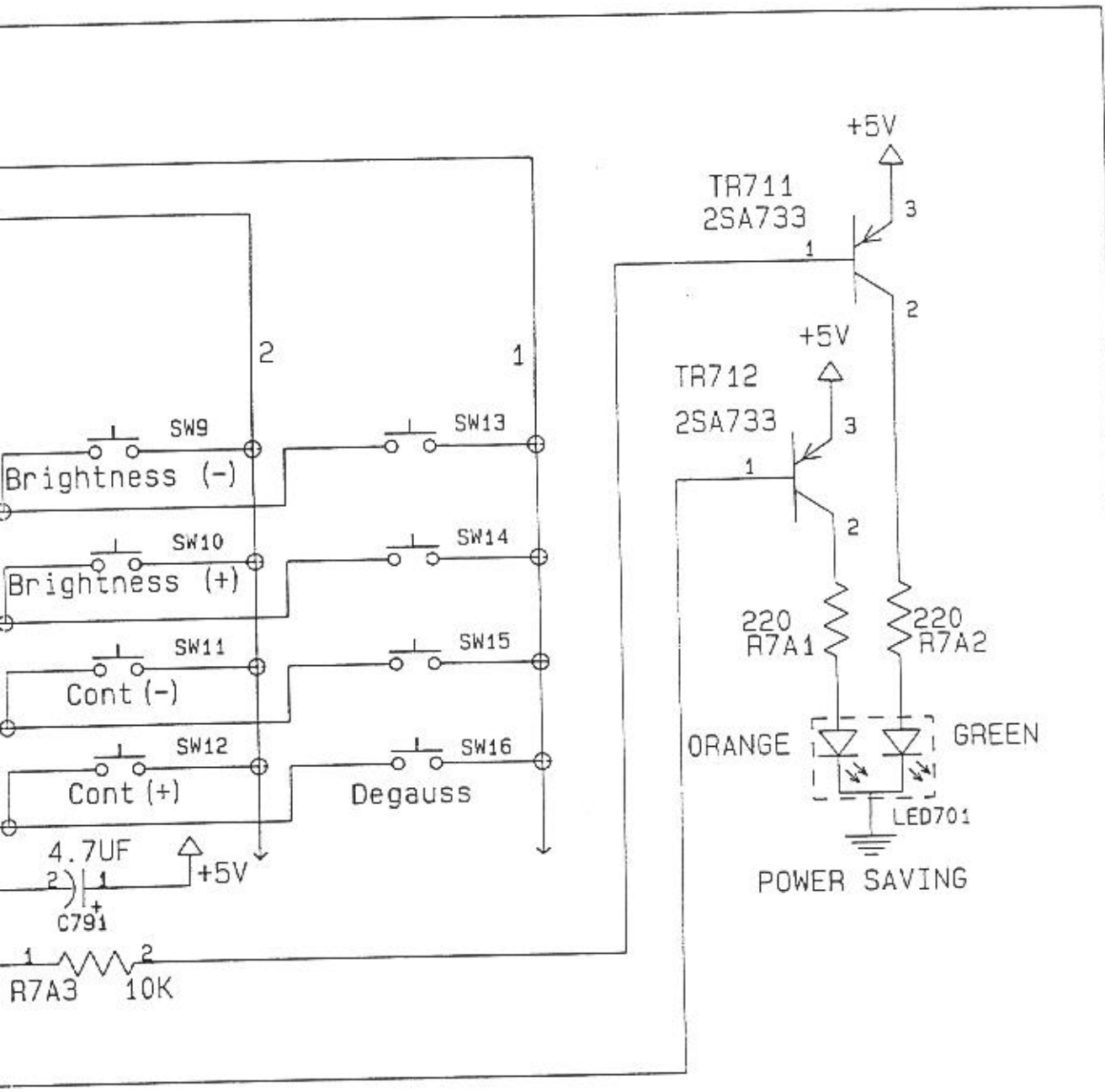
8.2. Key to Exploded View

REF.	PART NO.	DESCRIPTION
1	1301017F10	BEZEL
2	1376017F10	BEZEL BRACKET
3	7010019417	CRT M34KDD50X16(SVK)MACH C460449010
4	1340017F10	DOOR
5	9005097F10	FUNCTION KEY
6	SS7F100920	CONTROL PCB ASS'Y
7	2009097F10	NECK SHIELD
8	7020177F10	DEGAUSSING COIL
9	RO7F115044-V1	MAIN PCB ASS'Y
10	C460670110	TILT RING WIRE ASS'Y 270mm
11	C001137F11	CRT BRIND WIRE ASS'Y
12	2002097F10	CHASSIS REAR
13	C7107F1020	I/O CABLE ASS'Y
14	2007097F10	NECK SHIELD(FRONT)
15	2009097F10	NECK SHIELD(BACK)
16	RO7F100244-V1	NECK PCB ASS'Y
17	4410304020	POWER SWITCH SJ-W2F4A-07BB
18	8024113008	SCREW STEEL TRI 'B' TAPPING
19	1302017F10	BUCKET
20	8433113520	SCREW B/HD M4X16 TAPPING 'P' FOR BUCKET & BEZEL ASS'YX2
21	1010094310	FOOT
22	1605017F10	BASE
23	SS7F100630-404	LOGIC PCB ASS'Y
24	3060040060	RIVET NYLON 4.0X6.0 FOR FBT COVER & FIXED PLATE
25	1013094180	REVLT +3 FOR LOGIC PCB & FIXED PLATE
26	1121017F10	CONTROL PANEL
27	9004097F10	DECO PLATE(I/O CABLE)
28	7067F10122	LINE FILTER IX-0342-S
29	8121144008	SCREW CAP 'C' M4X8 FOR I/O CABLE
30	2017094030	CLIP CABLE FOR I/O CABLE
31	2010191530	FIXED PLATE
32	8135115025	SCREW CAP HI-LOW TAPPING M5X25
33	1604017F10	TILT BALL
34	8026113008	SCREW BIND(+) ZINC M3X8
35	36023000U5	NYLON WASHER(U-5)
36	3662300SR4	PLASTIC PUSH RIVETS SR-4
37	3100452015	RUBBER WASHER 4.5X20X1.5T
38	3111502016	FLAT WASHER M5 T=1.6
39	2001097F10	U BRACKET
40	8026113008	SCREW BIND(+) ZINC M3X8 TAPPING FOR U-BKT & MAIN PCBX4
41	8127113006	SCREW PAN(+)/HD CAP YAPPING M3X6

42	1A100C7F10	RETAINER
43	1360014E10	CAP
44	8418113008	SCREW BIND(+) TAPPING M3X8
45	1015094610	DOOR LOCK 4U66
46	8135115025	SCREW CAP HI-LOW TAPPING
47	36523BS22P	PCB SUPPORT
	ADDITIONAL MECHANICAL PARTS NOT SHOWN IN EXPLODED VIEW	
	1410004E10	LENS
	361231503H	LOCK CAP
	4050256455	RES-CF 1/2W J 560K
	5290003000	TUBE-SHRINK ID=3
	5290005000	TUBE-SHRINK ID=5
	5541025095	CABLE TIE 2.5X90
	5541025160	CABLE TIE-BINDING 2.5X160
	5541036200	CABLE TIE W=3.6mm L=200mm
	C459425101	GND WIRE ASS'Y 130mm GRN/YEL
	C4597F1010	GND WIRE ASS'Y
	C4597F1020	GND WIRE ASS'Y 100mm
	C4607F1010	WIRE ASS'Y 100mm



W/O AUDIO: 1769DC-2



ViewSonic Corporation				
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	+ -	+ -		
DRAWER	SHEET		DRAWING NAME	FILENAME
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MODEL NO. 1769DC-2				

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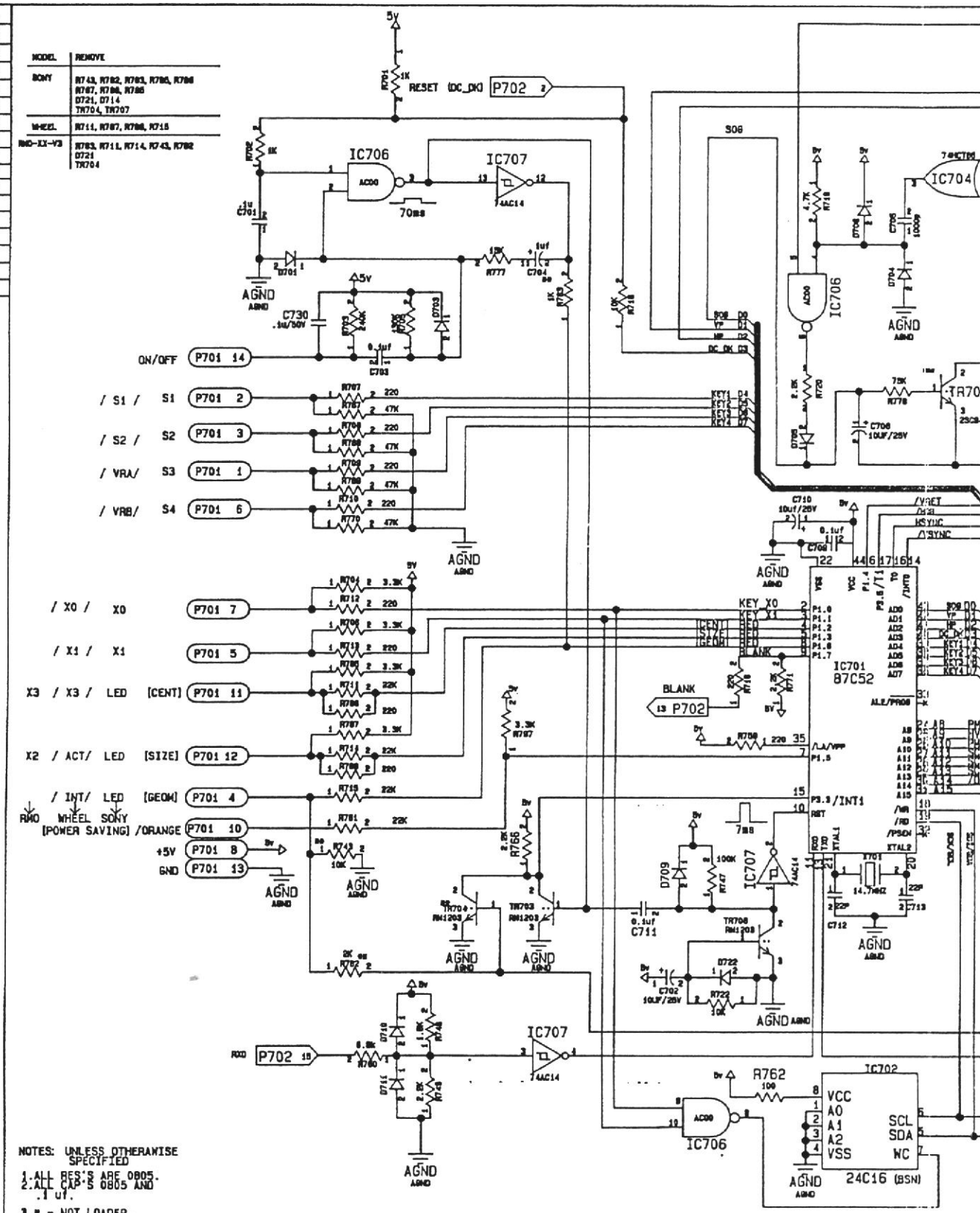
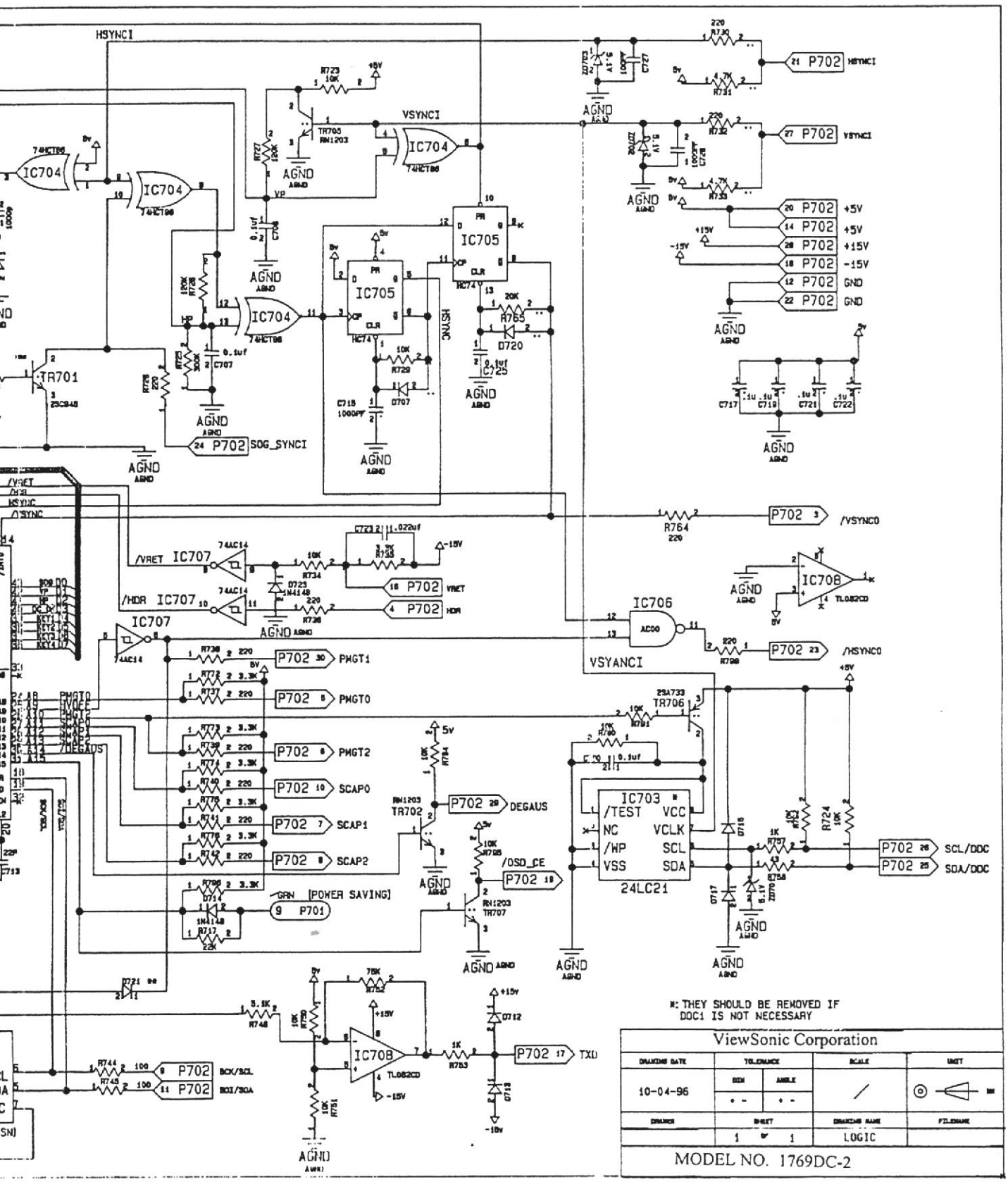
-08-'95	N-07269503EG
-06-'95	N-08199508EG
-07-'95	N-09139504PE
-27-'95	N-09269501RG
-02-'96	N-12139501EG
-05-'96	O-07229601ET
-09-'96	O-08089602EP
-04-'96	O-080896C1EP





※: THEY SHOULD BE REMOVED IF DDC1 IS NOT NECESSARY

ViewSonic Corporation				
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10-04-96	DIM	ANGLE	/	⊙ — IN
	±	±		
DRAWER	SHEET		DRAWING NAME	FILENAME
	1 OF 1		LOGIC	

MODEL NO. 1769DC-2

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04-'95	N-04189503EG
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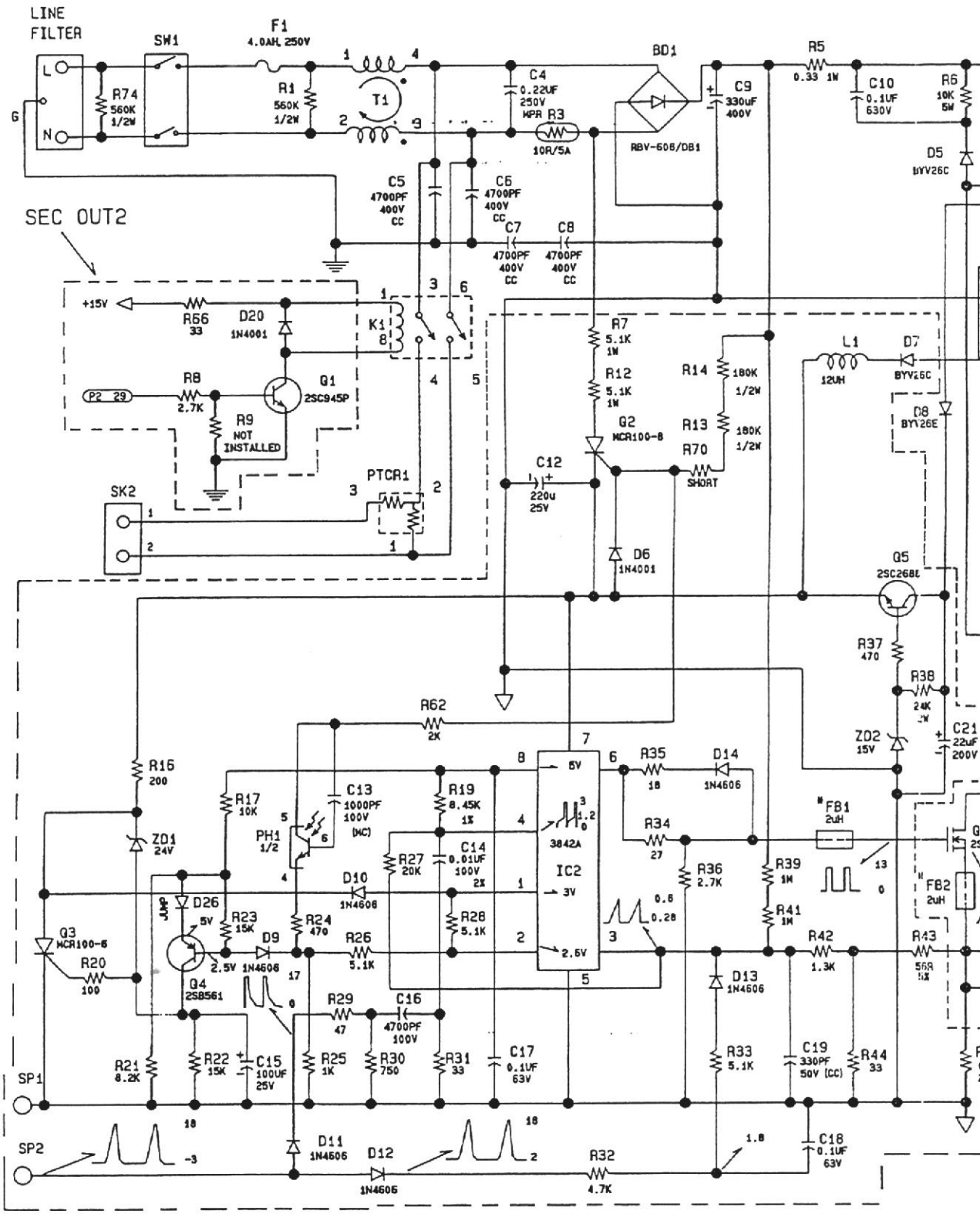
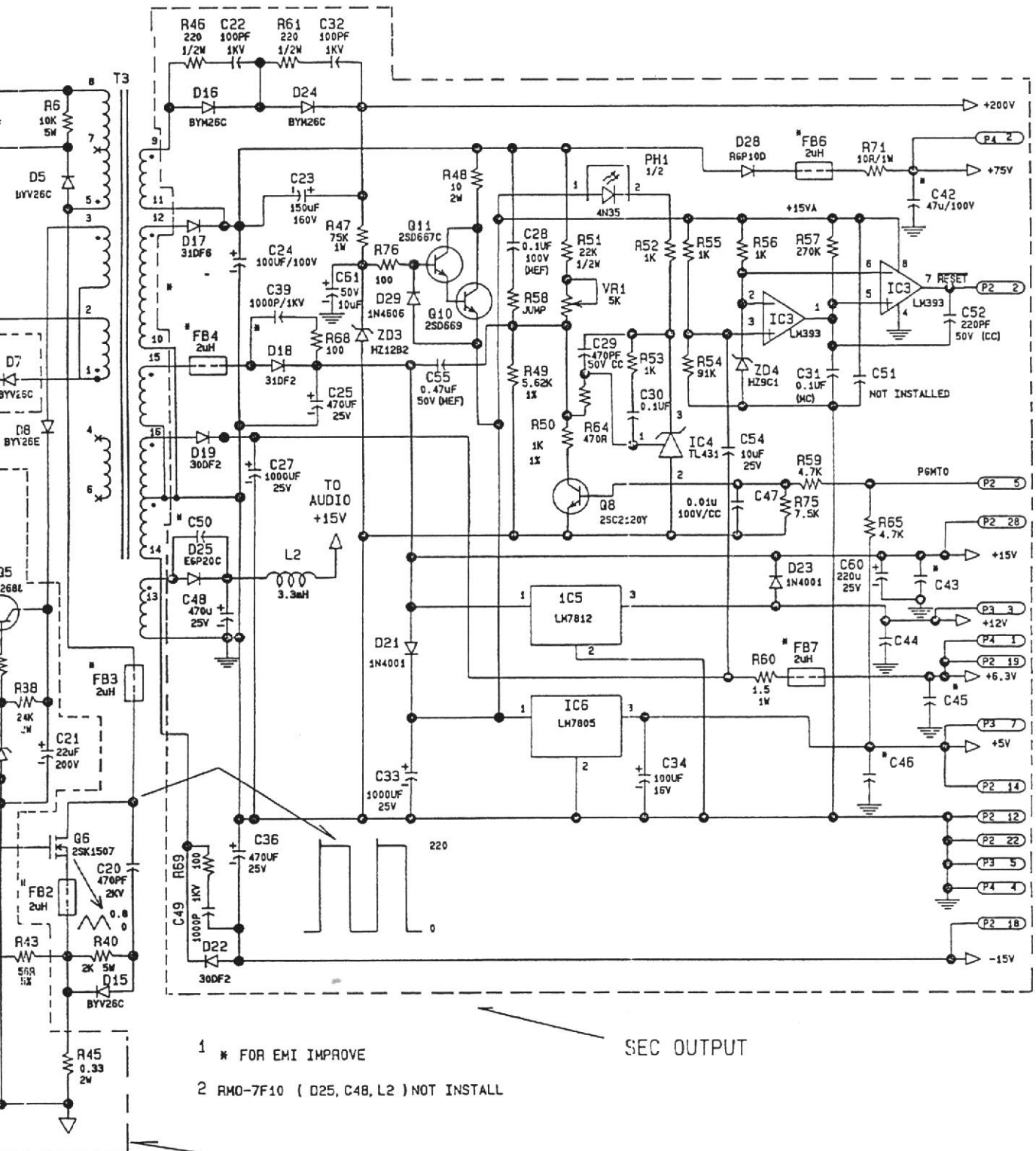
14-'95	0-05159502ET
22-'95	0-05299507EC
24-'95	0-05319502RC
03-'96	N-01169605EG
22-'96	0-061796C6RT



	LINE CHANG &MATSUSHITA FBT	SANYO FBT
R32	4.7K	5.6K

	TOSHIBA
R60	1.5R/1W



1 * FOR EMI IMPROVE

2 RMO-7F10 (D25, C48, L2) NOT INSTALL

SEC OUTPUT

PRI CTL CKT

TOSHIBA	MATSUSHITA	HITACHI
.5R/1W	2R/2W	1.5R/1W

ViewSonic Corporation			
DRAWING DATE	TOLERANCE	SCALE	UNIT
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DRAWER	SHEET	DRAWING NAME	FILENAME
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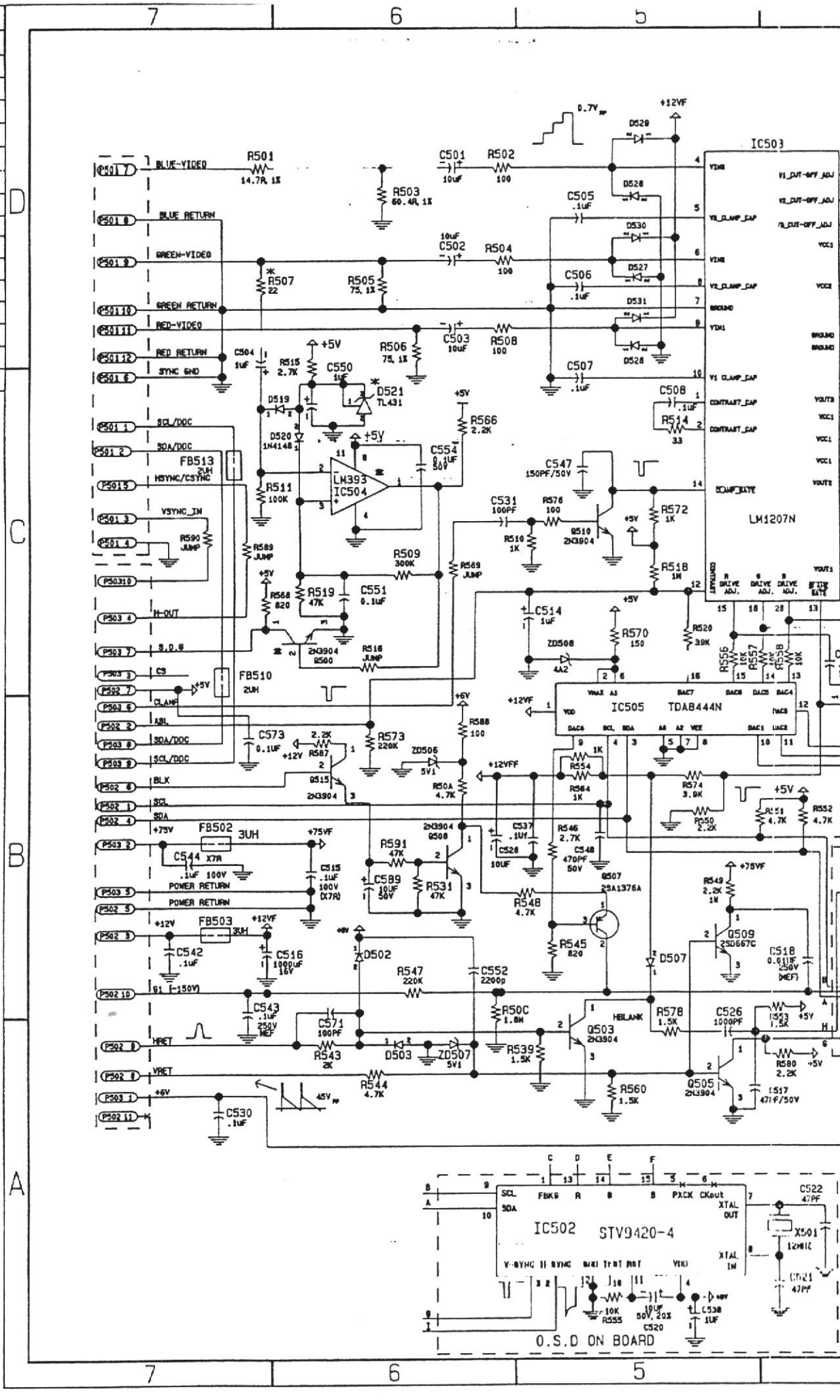

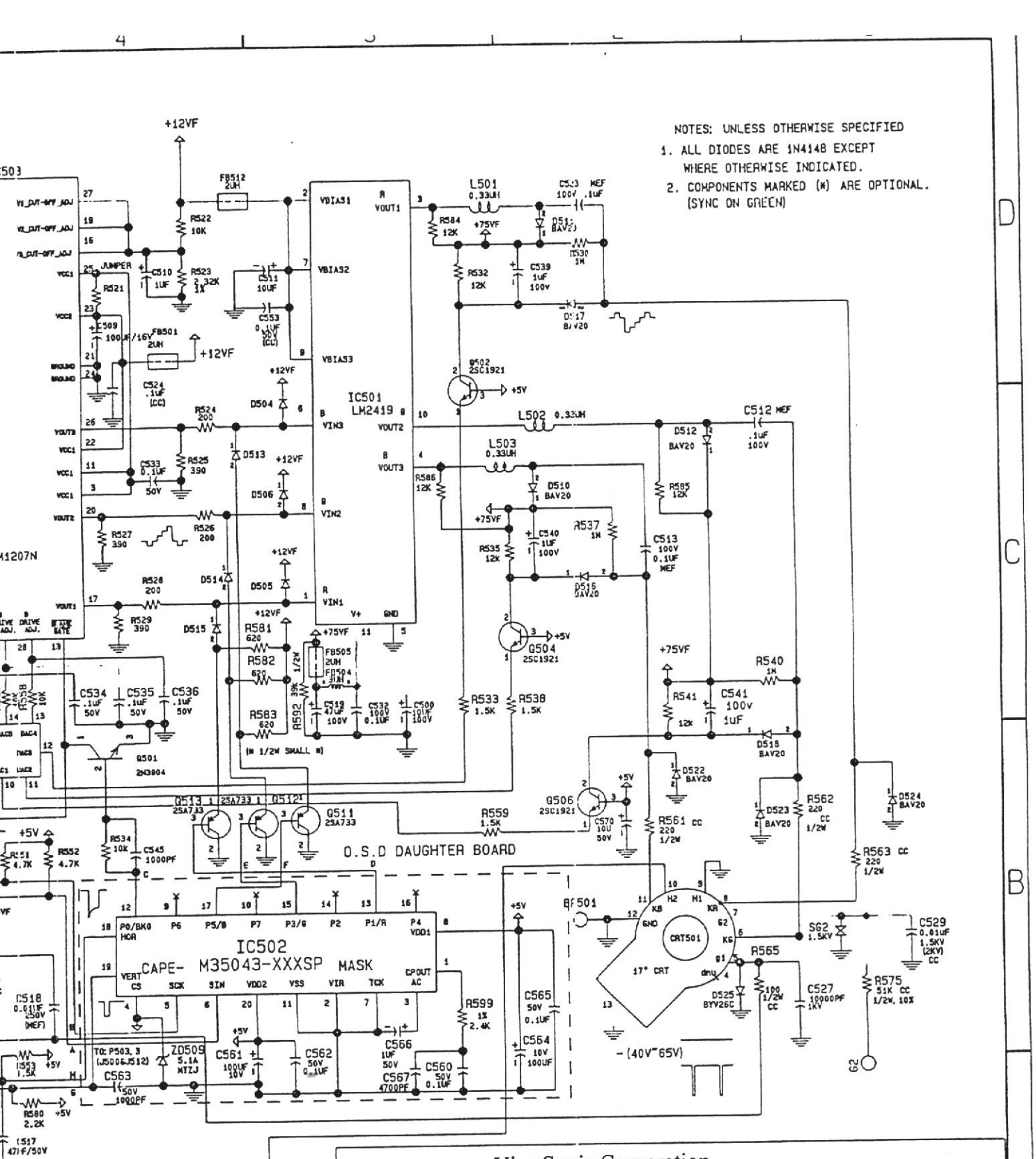
NOTES: UNLESS OTHERWISE SPECIFIED
1. ALL DIODES ARE 1N4148 EXCEPT WHERE OTHERWISE INDICATED.
2. COMPONENTS MARKED (*) ARE OPTIONAL. (SYNC ON GREEN)
+12VF
IC501 LM2419
L501 0.33UH
L502 0.33UH
L503 0.33UH
Q502 2SC1921
Q504 2SC1921
Q506 2SC1921
Q501 2N3904
Q513 2SA733
Q512 2SA733
Q511 2SA733
O.S.D DAUGHTER BOARD
IC502 M35043-XXXSP MASK
CAPE-
CRT501
17" CRT
-(40V~65V)
ViewSonic Corporation
DRAWING DATE
01-10-'97
TOLERANCE
DIM
ANGLE
SCALE
UNIT
MM
DRAWN
SHEET 1 OF 1
DRAWING NAME
NECK
FILENAME
MODEL NO. 1769DC-2

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04-26-'96	0-03269601RP
05-29-'96	0-04189602ET
05-31-'96	0-05079603ET
05-31-'96	0-05149601ET
06-04-'96	0-05319601ET
06-12-'96	0-06049603RP
06-19-'96	0-06049602RC
08-21-'96	0-08129602RP
08-22-'96	0-08229601ET
09-23-'96	0-08229601ET
10-11-'96	0-092396C2ET
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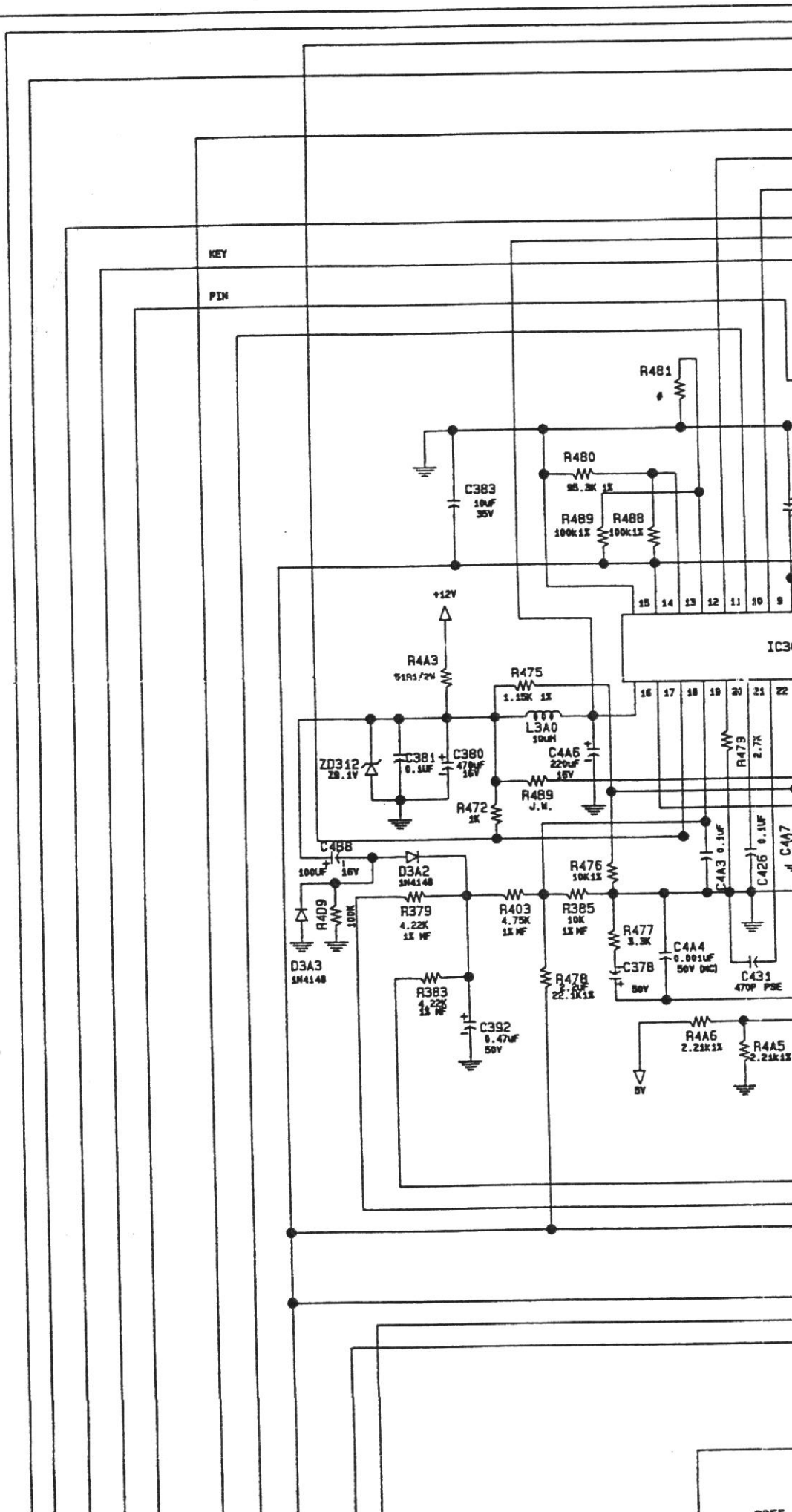
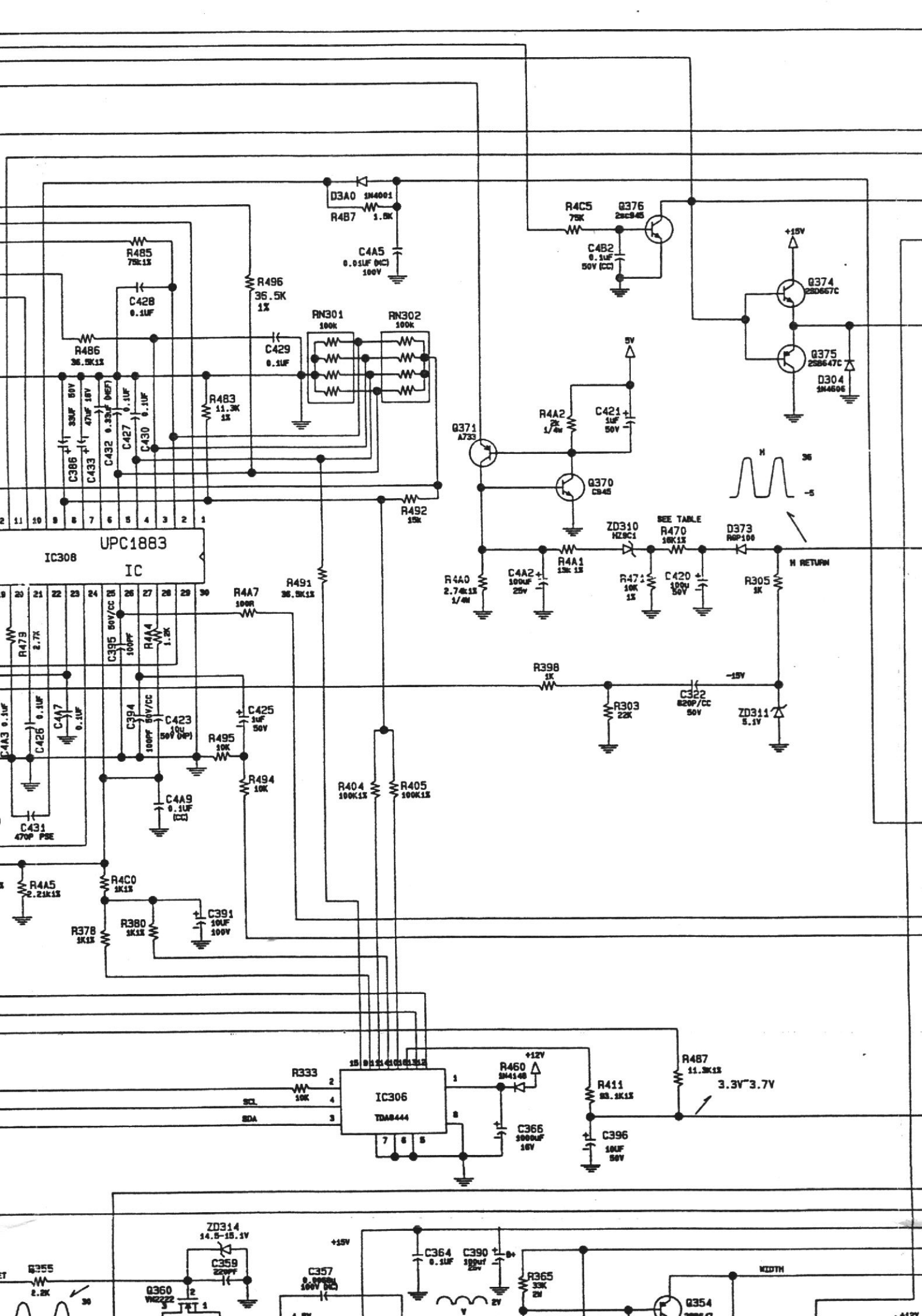
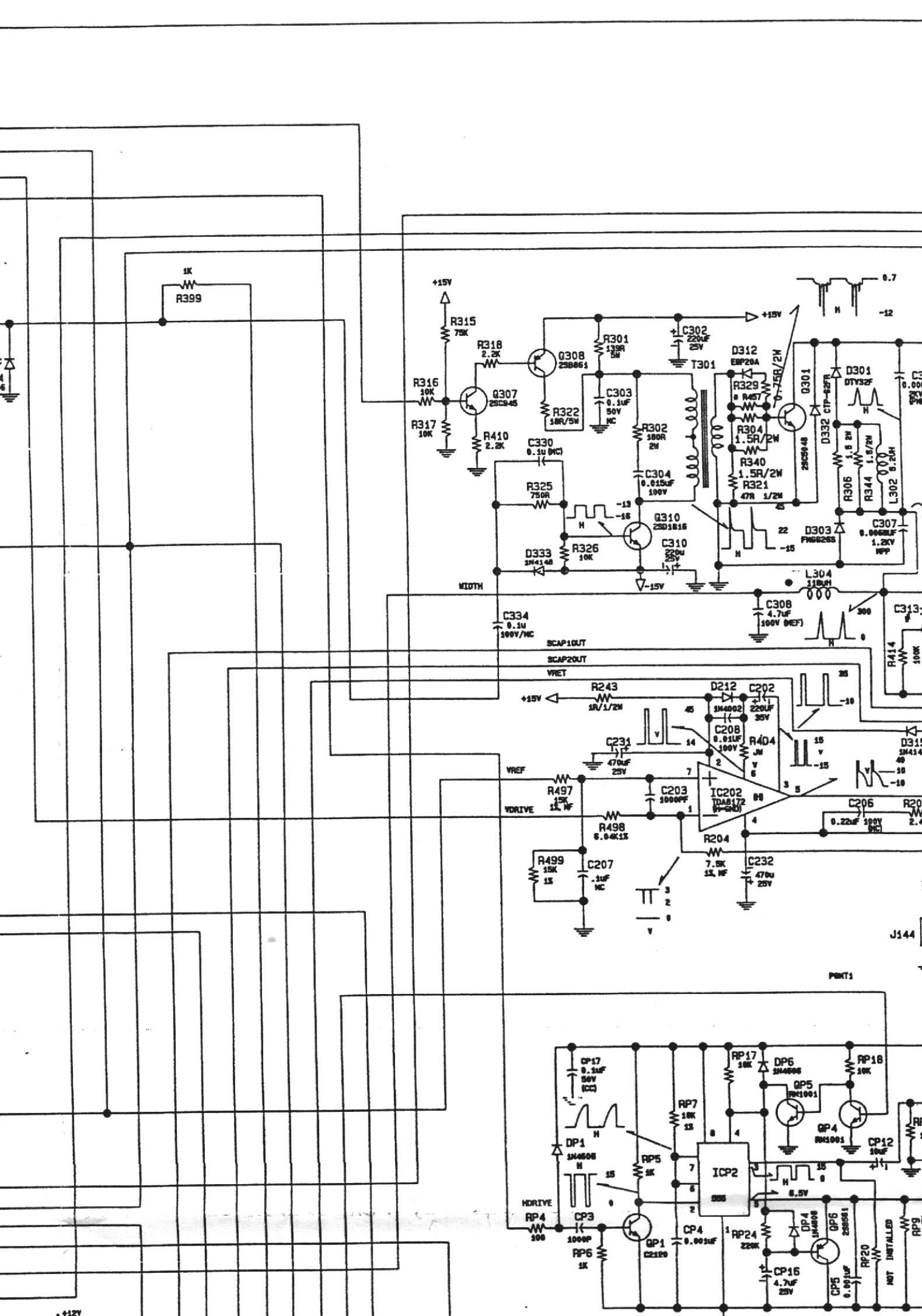
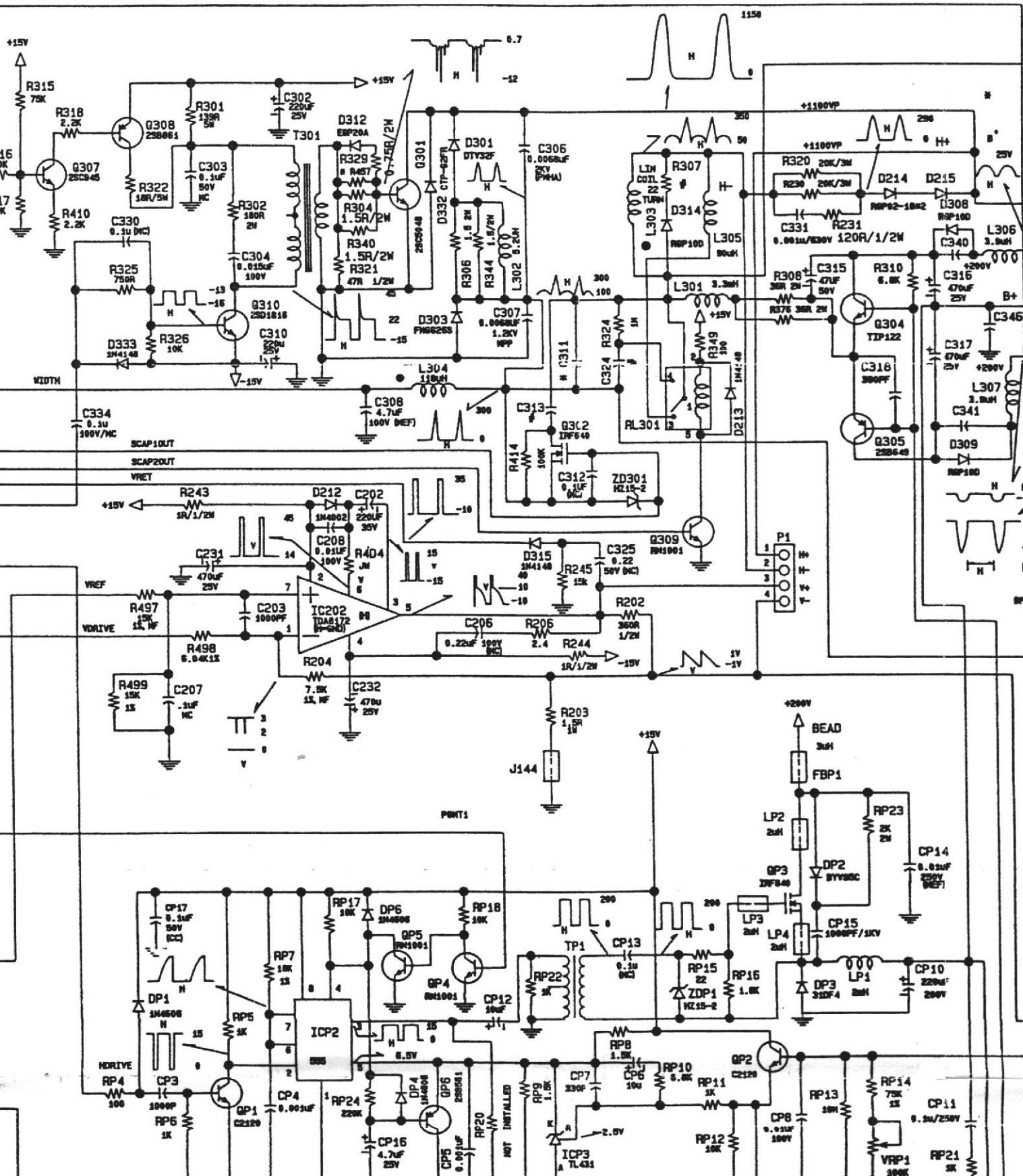
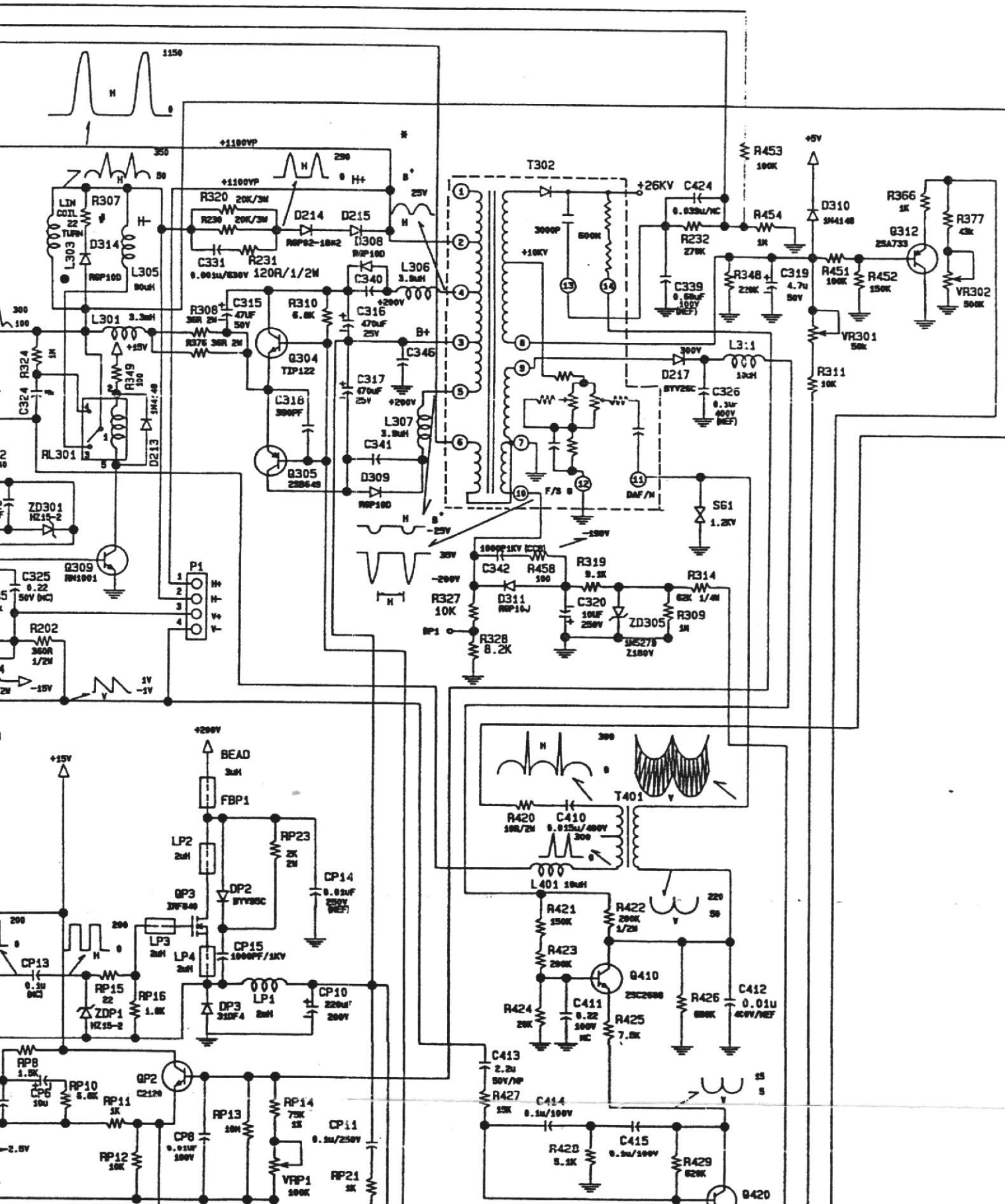
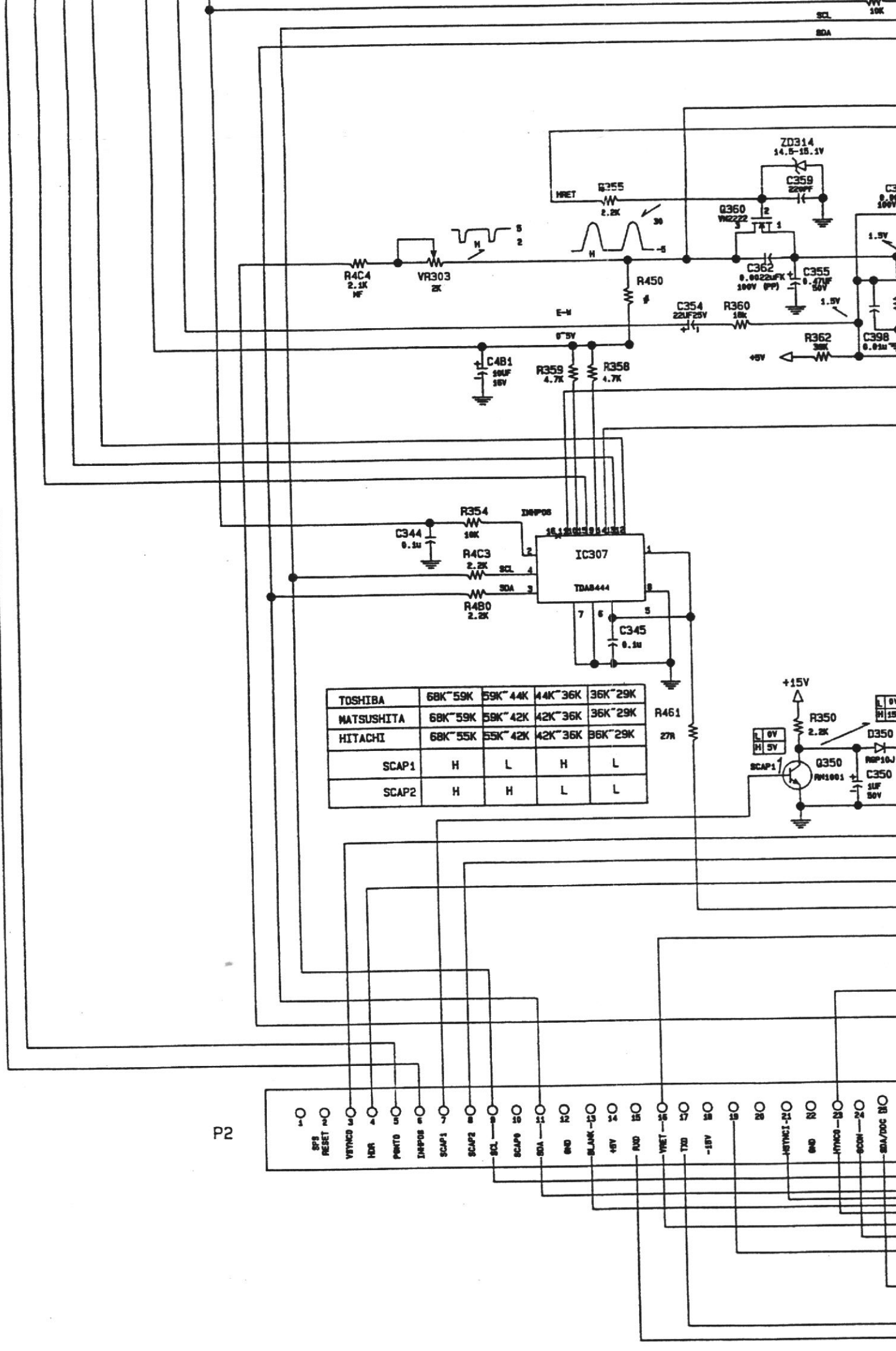



D3A0 1N4001
R4B7 1.5K
C4A5 0.01UF (NC) 100V
R4C5 75K
Q376 2SC945
C4B2 0.1UF 50V (CC)
+15V
Q374 2SD667C
Q375 2SB647C
D304 1N4606
R485 75K1%
C428 0.1UF
R496 36.5K 1%
RN301 100K
RN302 100K
C429 0.1UF
R486 36.5K1%
R483 11.3K 1%
C386 33UF 50V
C433 47UF 16V
C432 0.33UF (NEF)
C427 0.1UF
C430 0.1UF
5V
R4A2 2K 1/4W
C421 1UF 50V
Q371 A733
Q370 C945
R492 15K
H
36
-5
SEE TABLE
ZD310 MZ9C1
R470 16K1%
D373 RGP100
H RETURN
UPC1883
IC308
IC
R4A0 2.74K1% 1/4W
C4A2 100UF 25V
R4A1 15K 1%
R471 10K 1%
C420 100U 50V
R305 1K
R491 36.5K1%
R4A7 100R
C395 50V/CC 100PF
R4A4 1.2K
R479 2.7K
R398 1K
-15V
R303 22K
C322 820P/CC 50V
ZD311 5.1V
C4A3 0.1UF
C426 0.1UF
C4A7 0.1UF
C394 50V/CC 100PF
C423 10U 50V (NP)
C425 1UF 50V
R495 10K
R494 10K
C4A9 0.1UF (CC)
C431 470P PSE
R404 100K1%
R405 100K1%
R4A5 2.21K1%
R4C0 1K1%
R378 1K1%
R380 1K1%
C391 10UF 100V
R333 10K
SCL
SDA
IC306
TDA8444
+12V
R460 1N4148
C366 1000UF 16V
R411 83.1K1%
C396 10UF 50V
R487 11.3K1%
3.3V~3.7V
ZD314 14.5-15.1V
C359 220PF
Q360 MN2222
C357 0.0068U 100V (NC)
+15V
C364 0.1UF
C390 100uf 25v
B+
R365 33K 2W
2V
WIDTH
Q354
R355 2.2K
30

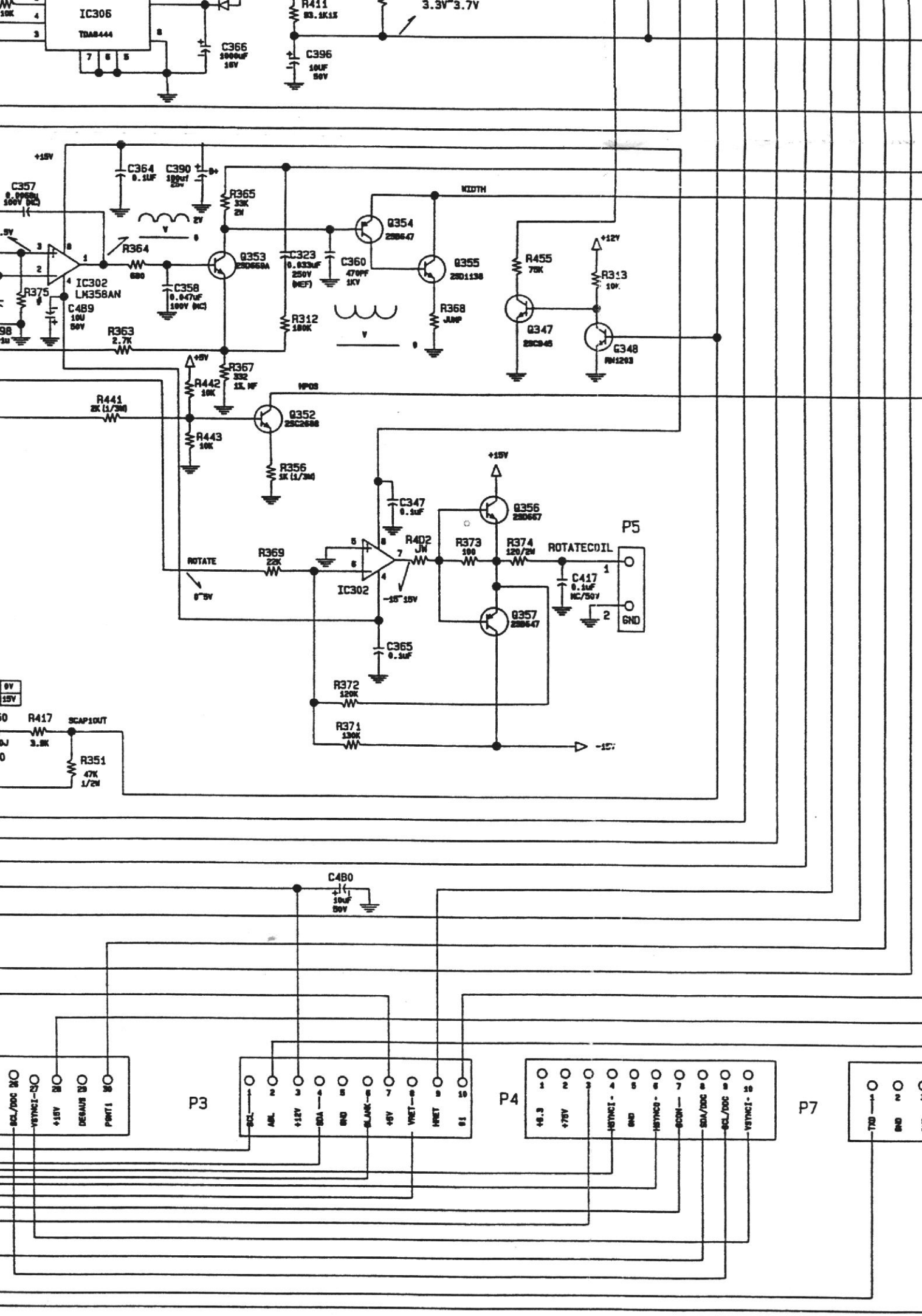

R399
1K
+15V
R315
75K
R318
2.2K
Q308
2SB861
R301
139R
1W
C302
220uF
25V
T301
D312
EBP20A
R316
10K
Q307
2SC945
R322
10R/5W
C303
0.1uF
50V
MC
R317
10K
R410
2.2K
C330
0.1u (NC)
R302
180R
2W
C304
0.015uF
100V
R325
750R
Q310
2SD1816
C310
220u
25V
D333
1N4148
R326
10K
WIDTH
-15V
R329
R457
R304
1.5R/2W
R340
1.5R/2W
R321
47R 1/2W
D301
DTV32F
D332
CTP-02FR
2SC5948
R306
R344
L302
6.2uH
D303
FMG26S
C307
0.0068uF
1.2KV
MPP
L304
110uH
C308
4.7uF
100V (REF)
C334
0.1u
100V/MC
SCAP1OUT
SCAP2OUT
VRET
R243
1R/1/2W
D212
1N4002
C202
220UF
35V
C208
0.01UF
100V
R404
C231
470uF
25V
VREF
R497
15K
1%, MF
VDRIVE
C203
1000PF
IC202
TDA8172
R498
5.04K1%
R204
7.5K
1%, MF
C232
470u
25V
R499
15K
1%
C207
.1uF
MC
C206
0.22uF
100V
(NC)
J144
PRINT1
CP17
0.1uF
50V
(CC)
RP17
10K
DP6
1N4606
RP18
10K
QP5
RN1001
RP7
10K
1%
QP4
RN1001
CP12
10uF
DP1
1N4606
RP5
1K
ICP2
6.5V
HDRIVE
RP4
100
CP3
1000P
QP1
C2120
CP4
0.001uF
RP6
1K
RP24
220K
DP4
1N4606
QP6
2SB561
CP16
4.7uF
25V
CP5
0.001uF
RP20
NOT INSTALLED
+12V

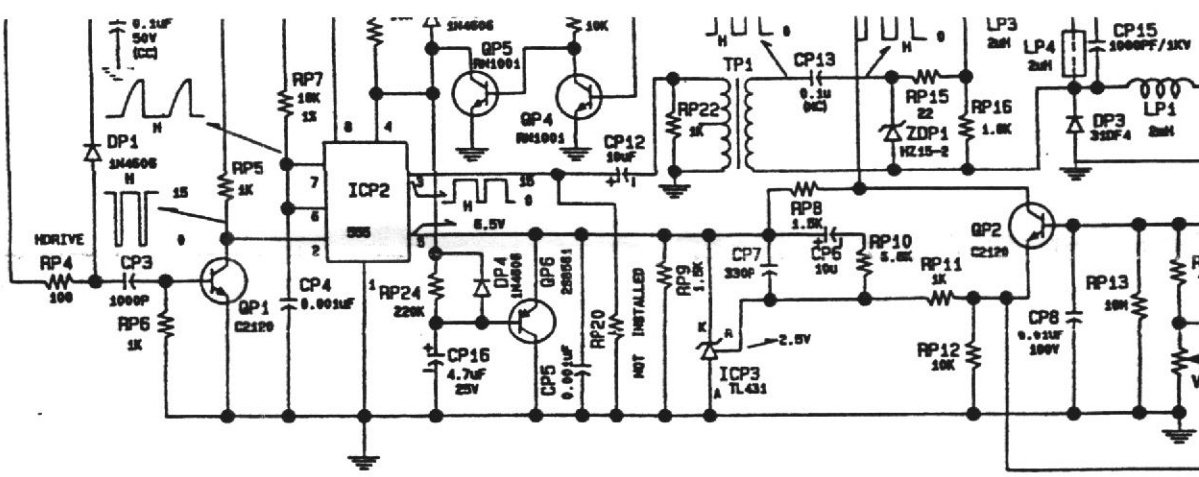

+15V
R315
75K
R318
2.2K
Q308
2SB861
R301
139R
5W
C302
220UF
25V
T301
D312
EBP20A
R329
R457
0.75R/2W
R304
1.5R/2W
R340
1.5R/2W
R321
47R 1/2W
Q301
2SC5948
D301
DTY32F
D332
CTP-42FR
C306
0.0068UF
2KV
(PHA)
Q307
2SC945
R322
18R/5W
C303
0.1UF
50V
NC
R302
180R
2W
R410
2.2K
C330
0.1u (NC)
C304
0.015UF
100V
R325
750R
Q310
2SD1816
D333
1N4148
R326
10K
C310
-15V
WIDTH
D303
FMG26S
C307
0.0068UF
1.2KV
MPP
R306
1.8 2W
R344
1.8/2W
L302
6.2uH
L304
110uH
C308
4.7uF
100V (NEF)
C334
0.1u
100V/NC
SCAP1OUT
SCAP2OUT
VRET
+1100VP
R307
LIN COIL 22 TURN
L303
D314
RGP10D
L305
90uH
R320
20K/3W
R230
20K/3W
D214
D215
RGP02-18E2
D308
RGP10D
C331
0.001u/630V
R231
120R/1/2W
L306
3.9uH
C340
+200V
C315
47UF
50V
R308
36R 2W
R575
36R 2W
R310
6.8K
C316
470uF
25V
B+
C346
Q304
TIP122
C317
470uF
25V
+200V
C318
390PF
L307
3.9uH
C341
Q305
2SB649
D309
RGP10D
L301
3.3mH
R324
1M
C311
R349
10
D213
1N4148
RL301
C313
Q302
IRF640
R414
100K
C312
0.1UF
(NC)
ZD301
HZ15-2
Q309
RN1001
P1
H+
H-
V+
V-
R243
1R/1/2W
D212
1N4002
C202
220UF
35V
C208
0.01UF
100V
R404
1M
C231
470UF
25V
D315
1N4148
R245
15k
C325
0.22
50V (NC)
R202
360R
1/2W
C206
0.22uF 100V
(NC)
R206
2.4
R244
1R/1/2W
VREF
R497
15K
1% MF
VDRIVE
R498
6.04K1%
C203
1000PF
IC202
TDA8172
R499
15K
1%
C207
.1UF
NC
R204
7.5K
1% MF
C232
470u
25V
R203
1.5R
1W
J144
PGNT1
+200V
BEAD
3uH
FBP1
LP2
2uH
RP23
2K
2W
CP14
0.01uF
250V
(NEF)
QP3
IRF840
DP2
BYV98C
LP3
2uH
LP4
2uH
CP15
1000PF/1KV
DP3
3SDF4
LP1
2uH
CP10
220uF
200V
CP17
0.1uF
50V
(CC)
RP17
10K
DP6
1N4006
RP18
10K
QP5
RN1001
QP4
RN1001
CP12
10uF
RP7
10K
1%
DP1
1N4006
RP5
1K
ICP2
555
TP1
CP13
0.1u
(NC)
RP22
1K
RP15
22
ZDP1
HZ15-2
RP16
1.8K
RP8
1.5K
CP7
330P
CP6
10u
RP10
5.6K
RP11
1K
QP2
C2120
RP13
10K
RP14
75K
1%
CP11
0.1u/250V
VRP1
100K
RP21
1K
HDRIVE
RP4
100
CP3
1000P
QP1
C2120
CP4
0.001uF
RP6
1K
RP24
220K
DP4
1N4006
QP6
2SD561
CP16
4.7uF
25V
CP5
0.001uF
RP20
NOT INSTALLED
RP9
1.5K
CP8
0.01uF
100V
RP12
10K
ICP3
TL431
2.5V


T302
+26KV
C424
R453
R454
D310
R366
R377
Q312
R232
R348
C319
R451
R452
VR302
VR301
R311
L311
D217
C326
S61
R307
LIN COIL
L303
D314
L305
R320
D214
D215
D308
C331
R231
120R/1/2W
L306
C340
R308
C315
R310
C316
L301
R376
Q304
TIP122
C346
C317
C318
L307
C341
Q305
D309
F/S
DAF/H
R324
C324
R349
D213
RL301
ZD301
Q309
P1
H+
H-
V+
V-
C325
R202
+1100VP
+15V
-15V
C342
R458
R319
R314
R327
10K
D311
C320
ZD305
R309
R328
8.2K
BEAD
FBP1
LP2
RP23
CP14
QP3
DP2
LP3
LP4
CP15
CP13
RP15
RP16
ZDP1
DP3
LP1
CP10
RP8
QP2
CP6
RP10
RP11
RP13
RP14
CP8
CP11
RP12
VRP1
RP21
T401
R420
C410
L401
R421
R422
R423
Q410
R424
C411
R425
R426
C412
C413
R427
C414
C415
R428
R429
Q420



TOSHIBA	68K~59K	59K~44K	44K~36K	36K~29K
MATSUSHITA	68K~59K	59K~42K	42K~36K	36K~29K
HITACHI	68K~55K	55K~42K	42K~36K	36K~29K
SCAP1	H	L	H	L
SCAP2	H	H	L	L


IC306
TDA8444
C366
1000uF
16V
R411
3.3V~3.7V
C396
10UF
50V
+15V
C364
0.1uF
C390
R365
33K
2W
C357
R364
Q353
C323
0.033uF
250V
(MEF)
C360
470PF
1KV
Q354
Q355
WIDTH
R455
75K
+12V
R313
10K
Q347
Q348
R368
JUMP
R312
180K
IC302
LM358AN
C358
0.047uF
100V (MC)
C489
10U
50V
R375
R363
2.7K
R367
332
1% MF
+5V
R442
10K
HPOS
R441
2K (1/2W)
Q352
R443
10K
R356
1K (1/2W)
C347
0.1uF
Q356
P5
R402
JW
R373
100
R374
120/2W
ROTATECOIL
C417
0.1uF
NC/50V
GND
ROTATE
R369
22K
IC302
Q357
C365
0.1uF
R372
120K
R371
130K
-15V
R417
3.9K
SCAP10UT
R351
47K
1/2W
C480
10uF
50V
P3
P4
P7
SCL/DDC
VSYNC1-IN
+15V
DEGAUS
FAN11
SCL
ADL
+12V
SDA
GND
SLAVE
+5V
VRET
HRET
S1
+8.3
+78V
HSYNC1-
HSYNC2-
SCON
SDA/DDC
VSYNC1-
TXD
GND



MODEL NO. 1769DC-2 FBT

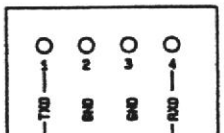
PARTS	TOSHBA	MASUSHTA	HITACHI
R32	4.7K	5.6K	4.7K
R470	1% 16K	1% 21.5K	1% 16K

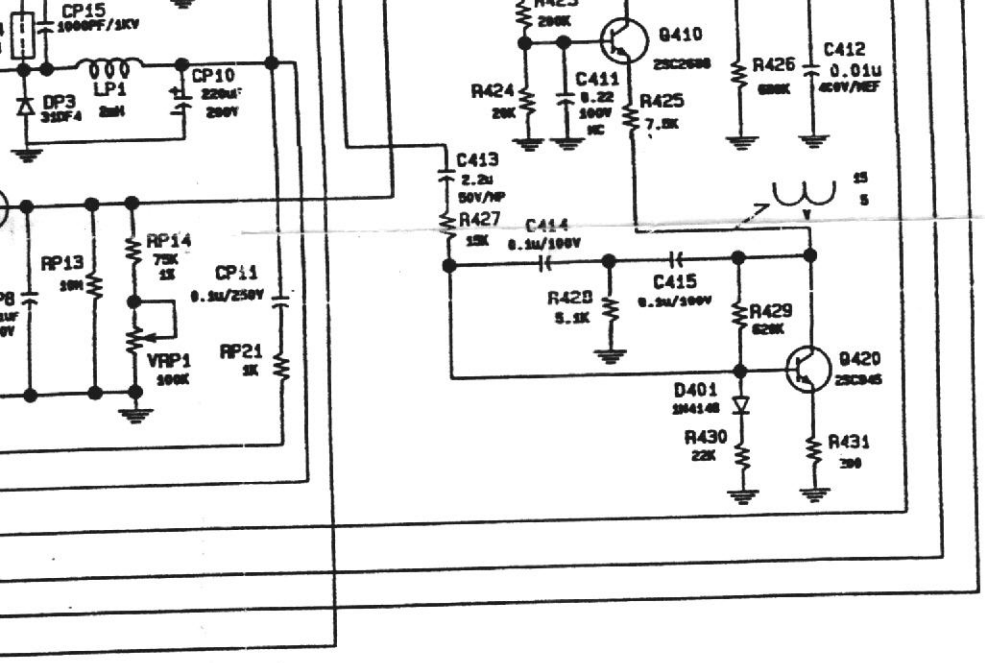
NAME	MATSUSHITA FBT	SAMPO FBT	LIEN CHANG FBT
R470	16K 1%	21.5K 1%	16K 1%

NOTE: PLEASE REFER TO THE LIST
WHILE YOU MEET THE SIGN "#".

MODEL NO. 1769DC-2 DIifferent List

NAME	TOSHIBA CRT	MATSUSHITA CRT	HITACHI CRT
J34J142	JUMP WIRE	JUMP WIRE	(NC)
J35J143	(NC)	(NC)	JUMP WIRE
L305	90uH	173uH	173uH
C311	0.43uF 400V PMA	0.43uF 400V PMA	0.39uF 400V PMHA
C313	0.39uF/400V/MPP	0.33uF/400V/MPP	0.33uF/400V/MPP
C324	0.91uF/400V/MPP	1uFJ/400V/MPP	0.82uFJ/400V/MPP
C328	1uFJ/250V/MPP	1.2uF/250V/MPP	1.2UFJ/250V/MPP
R60	1W 1.5R	2W 2R	1W 1.5R
R202	1/2W 620R	1/2W 360R	1/2W 1.1K
R203	1W 1.3R	1W 1.5R	1W 1.5R
R231	120R 1/2W	JUMP WIRE	120R 1/2W
R307	120R/1W	56R 2W	120R/1W
R450	(NC)	9.1K	9.1K
R456	39.2K	24.3K	24.3K
R457	10R 2W	(NC)	(NC)
R469	10K	(NC)	(NC)
R481	105K 1%	107K 1%	110K 1%
FOR P5	TILT RING WIRE ASS'Y	CONN.2P & WIRE ASS'Y	CONN.2P & WIRE ASS'Y
R320	20K/3W	20K/3W	(NC)
R230	20K/3W	20K/3W	(NC)
C331	0.001uF/630V	0.001uF/630V	(NC)
R231	120R 1/2W	120R 1/2W	(NC)
D214	RGP02-18	RGP02-18	(NC)
D215	RGP02-18	RGP02-18	(NC)
* R231 DEL FOR ETS 7621-V3			
* C328 & R456 NEED 24KHZ CAN BY INSERTION			





ViewSonic Corporation				
DRAWING DATE	TOLERANCE		SCALE	UNIT
01-07-'97	DIM	ANGLE	/	MM
	+	-		
DRAWER	SHEET		DRAWING NAME	FILE NAME
	1 OF 1		DEF	

Section 9.
PCB Component List

9.1. Explanation of Parts Listing (America)..... 9-1
9.2. Main Board..... 9-1
9.3. Neck Board..... 9-8
9.4. Control PCB Board..... 9-11
9.5. Logic Board..... 9-11
9.6. Connector PCB Ass'y..... 9-13

9.7. Explanation of Parts Listing (Europe)..... 9-14
9.8. Main Board..... 9-14
9.9. Neck Board..... 9-21
9.10. Control PCB Board..... 9-24
9.11. Logic Board..... 9-24
9.12. Connector PCB Ass'y..... 9-26

Model No. 1769DC-2 (America)

1997.01.23

ADDRESS	Item Number	spare	Description	Comment
******		S	MAIN PCB ASS'Y	
	2000000011		CLIP WIRE	FOR Q6 HEAT SINK
	2001297F10		U BRACKET	
	2003197301		HEAT SINK	FOR Q6
	2004191630		HEAT SINK HOLDER	FOR Q6
	2005297F10		FBT COVER	
	2006097F10		SUPPORT FBT	FOR SAMPO & MATSUSHITA FBT ONLY
	2009096320		HEAT SINK	FOR IC202
	2015097F10		NECK SHIELD (F)	
	2046294000		HEAT SINK F	FOR Q305
	2046294000		HEAT SINK F	FOR Q308
	3050015030		#EYELET	FOR C306
	3052000300		EYELET	FOR FBT X3
	3340101525		BEAD PIN 1.5¢ L=25	FOR R340 X2
	3340230165		BEAD PIN 16.5X2.3¢	FOR R3
	3632DDTR02		TR HOUSING TR-02	FOR Q308
	4141108522		P.C.B. MAIN	
	4692300001	S	CLIP-FUSE 5MM	FOR F1
	5290003000		TUBE-SHRINK ID=3¢	FOR R34C
	5290004000		TUBE-SHRINK ID=4¢ 125 DEGREE C	FOR R301
	5322280004		WIRE 1007 #22 GRY 2060-TERM1.8	
	5324100900		WIRE UL1007 #24 BLK 80-K-K	FOR A-A'
	5541025095		CABLE TIE 2.5X90	FOR CORD & FBT ASS'Y X2,P3 WIRE & FBT COVER ASS'Y
	5560080003		CORE-FE 2643665802	
	8026113008		SCREW B/HD M3X8 TAPPING "B"	FOR MAIN PCB & FBT COVER X2,MAIN PCB & U BKT X1,
	8121114008		SCREW CAP BID(+) M4X8 TAPPING"	FOR CHASSIS REAR MAIN GND
	8127113006		SCREW PAN(+)/HD CAP TAPPING M3	FOR CHAS REAR & U BKT X2,MAIN PCB & U-BKT X1
	8283113015		SCREW BIND(+) M3X15 MACH W/SPR	FOR Q6
	8418114010		SCREW BIND(+) M4X10 ZINC TAPPI	FOR FBT & FBT COVER
	8504113006		SCREW BID(+) M3X6 MACH W/DISK	FOR FBT SUPPORT X2(SAMPO & MATSUSHITA FBT ONLY)
	8504113006		SCREW BID(+) M3X6 MACH W/DISK	FOR Q308
	8504113008		SCREW BIND(+) M3X8 MACH W/DISK	FOR Q305
	8504113010		SCREW BIND(+) M3X10 MACH W/DIS	FOR D301,303,332,Q301,355
	8504113010		SCREW BIND(+) M3X10 MACH W/DIS	FOR IC202
	8511113006		SCREW PANCH CAP/FLAT M3X6 "B"	FOR CHAS REAT & MAIN PCB X3
	8512143008		SCREW PAN(+)/HD TAPPING TRIANG	FOR Q6 & PCB
	9011294230		LABEL 28KV	
	C459162010		GND WIRE ASS'Y BLK	FOR F TO CHASSIS
	C488102015		CONN. 10P & ASS'Y W/CORE	FOR P3 & P4
BD1	4130600606	S	DIODE RBV-606 6A/600V	
C10	5074104506		CAP-MEF 0.1UFJ 630V P:15MM -SF	
C12	5156221T25		CAP-EC6 220UFM 25V -RT-	
C13	5116102111		CAP-MC 0.001UFK 100V -RT-	
C14	5092103615		CAP-PP .01UFG 100V P:10mm -SF-	
C15	5156101T25		CAP-EC6 100UFM 25V -RT-	
C16	5116472111		CAP-MC 0.0047UFK 100V -RT-	
C17	7143104452		CAP-Z5U 0.1UFZ 50V -AT-	
C18	7143104452		CAP-Z5U 0.1UFZ 50V -AT-	
C19	5128331552		CAP-CCSL 330PFJ 50V -RT-	
C20	510H4711C3		CAP-CCR 470PFK 2KV P:7.5mm -SF	
C202	5156221T35		CAP-EC6 220UFM 35V -RT-	
C203	5101102152		CAP-CCB 1000PFK 50V -RT-	
C206	5113224111		CAP-MC 0.22UFK 100V -SF-	
C207	5116104150		CAP-MC 0.1UFK 50V -RT-	
C208	5116103111		CAP-MC 0.01UFK 100V -RT-	
C21	5156220S07		CAP-EC6 22UFM 200V 10X20MM -SF	
C22	5101101132		CAP-CCB 100PFK 1KV -RT-	
C23	515X151S02		CAP-ECX 150UFM 160V -SF-	
C231	515X471S25		CAP-ECX 470UFM 25V -SF-	
C232	515X471S25		CAP-ECX 470UFM 25V -SF-	
C24	515X101S01		CAP-ECX 100UFM 100V -SF-	
C25	515F471S25		CAP-ECF 470UFM 25V -SF-	
C27	515X102S25		CAP-ECX 1000UFM 25V -SF-	
C28	5074104101		CAP-MEF 0.1UFK 100V -SF-	
C29	5128471552		CAP-CCSL 470PFJ 50V -RT-	
C30	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C302	515X221T25		CAP-ECX 220UFM 25V -RT-	
C303	5116104111		CAP-MC 0.1UFK 100V -RT-	
C304	5116153111		CAP-MC 0.015UFK 100V -RT-	
C306	51926825A3		CAP-MPR 6800PFJ 2KV P:22.5mm	
C307	5190682533		CAP-MPP 0.0068UFJ 1.2K P:15mm	
C308	5074475101		CAP-MEF 4.7UFK 100V -SF-	
C31	5116104150		CAP-MC 0.1UFK 50V -RT-	
C310	515X221T25		CAP-ECX 220UFM 25V -RT-	

C311	5195394543	CAP-PMA 0.39UFJ 400V -SF-
C312	5116104111	CAP-MC 0.1UFK 100V -RT-
C313	5190334543	CAP-MPP 0.33UFJ 400V P:22.5MM
C315	5156470T50	CAP-EC6 47UFM 50V -RT-
C316	515X471S25	CAP-ECX 470UFM 25V -SF-
C317	515X471S25	CAP-ECX 470UFM 25V -SF-
C318	5128391552	CAP-CCSL 390PFJ 50V -RT-
C319	5156479T50	CAP-EC6 4.7UFM 50V -RT-
C32	5101101132	CAP-CCB 100PFK 1KV -RT-
C320	5156100S03	CAP-EC6 10UFM 250V -SF-
C322	5101821152	CAP-CCB 820PFK 50V -RT-
C323	5074333102	CAP-MEF 0.033UFK 250V P:10mm -
C324	5190824543	CAP-MPP 0.82UFJ 400V -SF-
C325	5113224150	CAP-MC 0.22UFK 50V -SF-
C326	5074104104	CAP-MEF 0.1UFK 400V P:15MM -SF
C33	515X102S25	CAP-ECX 1000UFM 25V -SF-
C330	5116104150	CAP-MC 0.1UFK 50V -RT-
C331	5092102565	CAP-PP 0.001UFJ 630V P:5MM -SF
C334	5116104111	CAP-MC 0.1UFK 100V -RT-
C339	5074684101	CAP-MEF 0.68UFK 100V -SF-
C34	515X101T16	CAP-ECX 100UFM 16V -RT-
C342	5101102132	CAP-CCB 1000PFK 1KV -RT-
C344	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C345	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C347	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C350	5156109T50	CAP-EC6 1UFM 50V -RT-
C354	5156220T25	CAP-EC6 22UFM 25V -RT-
C355	5156478T50	CAP-EC6 0.47UFM 50V -RT-
C357	5116682111	CAP-MC 6800PFK 100V -RT-
C358	5116473111	CAP-MC 0.047UFK 100V -RT-
C359	5128221552	CAP-CCSL 220PFJ 50V -RT-
C36	515F471S25	CAP-ECF 470UFM 25V -SF-
C360	5101471132	CAP-CCB 470PFK 1KV -RT-
C362	5092222615	CAP-PP 0.0022UFG 100V P:7.5mm
C364	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C365	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C366	5156102216	CAP-EC 1000UFM 16V 10(D)X16(L)
C378	5156229T50	CAP-EC6 2.2UFM 50V -RT-
C380	5156471S16	CAP-EC6 470UFM 16V -SF-
C381	5116104150	CAP-MC 0.1UFK 50V -RT-
C383	5156100T35	CAP-EC6 10UFM 35V -RT-
C386	5156330T16	CAP-EC6 33UFM 16V -RT-
C39	5101102132	CAP-CCB 1000PFK 1KV -RT-
C390	5156101T25	CAP-EC6 100UFM 25V -RT-
C391	5156100T01	CAP-EC6 10UFM 100V -RT-
C392	5156478T50	CAP-EC6 0.47UFM 50V -RT-
C394	5128101152	CAP-CCSL 100PFK 50V -RT-
C395	5128101152	CAP-CCSL 100PFK 50V -RT-
C396	5156100T50	CAP-EC6 10UFM 50V -RT-
C398	5116103111	CAP-MC 0.01UFK 100V -RT-
C4	5067224425	CAP-MPR 0.22UFM 250V -SF-
C410	5074153104	CAP-MEF 0.015UFK 400V P:10MM -
C411	5113224111	CAP-MC 0.22UFK 100V -SF-
C412	5074103104	CAP-MEF 0.01UFK 400V P:10.0MM
C413	5162229T50	CAP-NPEC 2.2UFM 50V -RT-
C414	5116104111	CAP-MC 0.1UFK 100V -RT-
C415	5116104111	CAP-MC 0.1UFK 100V -RT-
C417	5116104150	CAP-MC 0.1UFK 50V -RT-
C42	5156470T01	CAP-EC6 47UFM 100V -RT-
C420	5156101T50	CAP-EC6 100UFM 50V -RT-
C421	5156109T50	CAP-EC6 1UFM 50V -RT-
C423	5162100T50	CAP-NP 10UFM 50V RT 85C
C424	5116393150	CAP-MC 0.039UFK 50V -RT-
C425	5156109T50	CAP-EC6 1UFM 50V -RT-
C426	5116104150	CAP-MC 0.1UFK 50V -RT-
C427	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C428	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C429	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C430	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C431	5144471550	CAP-P +-5% 470PF/50V -SF-
C432	5075334505	CAP-MEF 0.33UFJ 50V P:5mm -RT-
C433	5156470T16	CAP-EC6 47UFM 16V -RT-
C47	5101103112	CAP-CCB 0.01UFK 100V -RT-
C49	5101102132	CAP-CCB 1000PFK 1KV -RT-
C4A2	5156101T25	CAP-EC6 100UFM 25V -RT-
C4A3	5116104150	CAP-MC 0.1UFK 50V -RT-
C4A4	5116102650	CAP-MC 0.001UFG 50V -RT-
C4A5	5116103111	CAP-MC 0.01UFK 100V -RT-
C4A6	5156221T16	CAP-EC6 220UFM 16V -RT-
C4A7	5134104452	CAP-SCF 0.1UFZ 50V -RT-

C4A9	5134104452		CAP-SCF 0.1UFZ 50V -RT-
C4B0	5156100T50		CAP-EC6 10UFM 50V -RT-
C4B1	5156100T16		CAP-EC6 10UFM 16V -RT-
C4B2	5134104452		CAP-SCF 0.1UFZ 50V -RT-
C4B5	5134104452		CAP-SCF 0.1UFZ 50V -RT-
C4B8	5156101T16		CAP-EC6 100UFM 16V -RT-
C4B9	5156100T50		CAP-EC6 10UFM 50V -RT-
C5	5061472440		CAP-CCS 4700PFM 400V -SF-
C52	5128221552		CAP-CCSL 220PFJ 50V -RT-
C55	5075474505		CAP-MEF 0.47UFJ 50V -RT-
C6	5061472440		CAP-CCS 4700PFM 400V -SF-
C60	515F221T25		CAP-ECF 220UFM 25V -RT-
C61	5156100T50		CAP-EC6 10UFM 50V -RT-
C7	5061472440		CAP-CCS 4700PFM 400V -SF-
C8	5061472440		CAP-CCS 4700PFM 400V -SF-
C9	515P331S04		CAP-ECP 330UFM 400V -SF-
CP10	515X221S07		CAP-ECX 220UFM 200V -SF-
CP11	5074104102		CAP-MEF 0.1UFK 250V -SF-
CP12	5156100T50		CAP-EC6 10UFM 50V -RT-
CP13	5116104150		CAP-MC 0.1UFK 50V -RT-
CP14	5074103102		CAP-MEF 0.01UFK 250V -SF-
CP15	5101102132		CAP-CCB 1000PFK 1KV -RT-
CP16	5156479T50		CAP-EC6 4.7UFM 50V -RT-
CP17	5134104452		CAP-SCF 0.1UFZ 50V -RT-
CP3	5101102152		CAP-CCB 1000PFK 50V -RT-
CP4	5116102111		CAP-MC 0.001UFK 100V -RT-
CP5	5116102111		CAP-MC 0.001UFK 100V -RT-
CP6	5156100T50		CAP-EC6 10UFM 50V -RT-
CP7	5128331552		CAP-CCSL 330PFJ 50V -RT-
CP8	5116103111		CAP-MC 0.01UFK 100V -RT-
D10	4120146060	S	DIODE 1N4606 (SI) -AT-
D11	4120146060	S	DIODE 1N4606 (SI) -AT-
D12	4120146060	S	DIODE 1N4606 (SI) -AT-
D13	4120146060	S	DIODE 1N4606 (SI) -AT-
D14	4120146060	S	DIODE 1N4606 (SI) -AT-
D15	413010426C	S	DIODE BYV26C KINK FORMING -AT-
D16	413020426C	S	DIODE 2.3A/600V BYM26C -AT-
D17	41303031F6	S	DIODE 31DF6
D18	41303031F2	S	DIODE 3A/200V 31DF2
D19	41303030F2	S	DIODE 30DF2
D20	4120104001	S	DIODE 1N4001 -AT-
D21	4120104001	S	DIODE 1N4001 -AT-
D212	4120104002	S	DIODE 1N4002 -AT-
D213	4120141480	S	DIODE 1N4148 (SI) -AT-
D214	4130100218	S	DIODE RGP02-18E-5300 -AT-
D215	4130100218	S	DIODE RGP02-18E-5300 -AT-
D217	413010426C	S	DIODE BYV26C KINK FORMING -AT-
D22	41303030F2	S	DIODE 30DF2
D23	4120104001	S	DIODE 1N4001 -AT-
D24	413020426C	S	DIODE 2.3A/600V BYM26C -AT-
D28	413010010D	S	DIODE RGP10D-5302 -AT- 1A
D29	4120146060	S	DIODE 1N4606 (SI) -AT-
D301	413060032F	S	DIODE DTV32F-1500B TO-220
D303	4130400260	S	DIODE FMGG26S TO-220
D304	4120146060	S	DIODE 1N4606 (SI) -AT-
D308	413010010D	S	DIODE RGP10D-5302 -AT- 1A
D309	413010010D	S	DIODE RGP10D-5302 -AT- 1A
D310	4120141480	S	DIODE 1N4148 (SI) -AT-
D311	413010010J	S	DIODE RGP10J-5390 1A 600V -AT-
D312	413020120A	S	DIODE EGP-20A -AT-
D314	413010010D	S	DIODE RGP10D-5302 -AT- 1A
D315	4120141480	S	DIODE 1N4148 (SI) -AT-
D332	4130500200	S	DIODE CTP-G2 FR TO-220
D333	4120141480	S	DIODE 1N4148 (SI) -AT-
D350	413010010J	S	DIODE RGP10J-5390 1A 600V -AT-
D373	413010010D	S	DIODE RGP10D-5302 -AT- 1A
D3A0	4120104001	S	DIODE 1N4001 -AT-
D3A2	4120141480	S	DIODE 1N4148 (SI) -AT-
D3A3	4120141480	S	DIODE 1N4148 (SI) -AT-
D401	4120141480	S	DIODE 1N4148 (SI) -AT-
D5	413010426C	S	DIODE BYV26C KINK FORMING -AT-
D6	4120104001	S	DIODE 1N4001 -AT-
D7	413010426C	S	DIODE BYV26C KINK FORMING -AT-
D8	413010426E	S	DIODE BYV26E 1A/1000V SOD-57
D9	4120146060	S	DIODE 1N4606 (SI) -AT-
DP1	4120146060	S	DIODE 1N4606 (SI) -AT-
DP2	413015095C	S	DIODE BYV95C SOD-57
DP3	41303031F4	S	DIODE 3A/400V 35NS 31DF4 -AT-
DP4	4120146060	S	DIODE 1N4606 (SI) -AT-
DP6	4120146060	S	DIODE 1N4606 (SI) -AT-

F1	5268400052	S	FUSE 4A/250VAC
FB2	4322209046		FERRITE BEAD 2UH -AT-
FB3	4322209046		FERRITE BEAD 2UH -AT-
FB4	4322209046		FERRITE BEAD 2UH -AT-
FB6	4322209046		FERRITE BEAD 2UH -AT-
FB7	4322209046		FERRITE BEAD 2UH -AT-
FBP1	4322309006		FERRITE BEAD 3UH -AT-
IC2	4159384200	S	IC UC3842A 8PIN
IC202	4159817200	S	IC TDA8172 7PIN
IC3	4159393000	S	IC LM 393 8PIN
IC302	4159358000	S	IC LMT358N 8PIN
IC306	4159844400	S	IC TDA8444N 16PIN
IC307	4159844400	S	IC TDA8444N 16PIN
IC308	4159188300	S	IC UPC1883CT 30 PIN
IC4	415943100A	S	IC TL431 REGULATOR TO-92 -RT-
IC5	4159781201	S	IC MCT7812CT TO-220AB
IC6	4159780501	S	IC 7805 REGULATOR 3PIN
ICP2	4159555000	S	IC NE555 8PIN
ICP3	415943100A	S	IC TL431 REGULATOR TO-92 -RT-
J92	4322309006		FERRITE BEAD 3UH -AT-
K1	4420412009		RELAY JW2aHN-DC12V
L1	4321120006		COIL PEAKING 12UH -AT-
L301	4325339003		COIL CHOKE 3.3MH -SF-
L302	4323529003		COIL CHOKE 5.2UH -SF-
L303	708S206301		COIL LINEARITY -SF-
L304	4325111403		CHOKE COIL 118uH (WINDING) -SF
L304	4325141003		COIL CHOKE 146UH -SF-
L305	4323171003		COIL CHOKE 173uH
L306	4321399006		COIL PEAKING 3.9UH -AT-
L307	4321399006		COIL PEAKING 3.9UH -AT-
L311	4321100006		COIL PEAKING 10UH -AT-
L3A0	4321100006		COIL PEAKING 10UH -AT-
L401	4321100006		COIL PEAKING 10UH -AT-
LP1	4320205003		COIL CHOKE 2MH -SF-
LP2	4322209046		FERRITE BEAD 2UH -AT-
LP3	4322209046		FERRITE BEAD 2UH -AT-
LP4	4322209046		FERRITE BEAD 2UH -AT-
P1	4490400207		CONN. 4P WAFER ROUND PIN
P2	4493000161		CONN. 30P SIMM SOCKET AL03000
P5	4490200130		CONN. 2P WAFER 2.5MM
P7	4490401104		CONN. 4P MH11041-H1
PH1	4159435002		POTO COUPLER X'STER 4N35 W=10
PTCR1	7021141400		PTCR DGC 2R14M
Q1	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q10	410030669A	S	TRS. 2SD669A TO-126
Q11	411030667C	S	TRS. 2SD667C TO-92M -RT-
Q2	4114510080	S	TRS. SCR MCR100-8 TO-92 -RT-
Q3	4114501006	S	TRS. MCR100-6 TO-92 -RT-
Q301	4100250480	S	TRS. 2SC5048 TO-3P
Q302	4105906300	S	TRS. IRF630 TO-220
Q304	4103200122	S	TRS. TIP122 TO-220
Q305	410010649A	S	TRS. 2SB649A(C) TO-126
Q307	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q308	4100108610	S	TRS. 2SB861
Q309	4116610010	S	TRS. RN1001 -RT-
Q310	4105906200	S	TRS. MOSFET IRF620 TO-220
Q312	4110007330	S	TRS. 2SA733 TO-92M -RT-
Q347	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q348	4116612030	S	TRS. RN1203 -RT-
Q350	4116610010	S	TRS. RN1001 -RT-
Q352	4100226880	S	TRS. 2SC2688 TO-126
Q353	410030669A	S	TRS. 2SD669A TO-126
Q354	411010647C	S	TRS. 2SB647C TO-92M -RT-
Q355	4100318970	S	TRS. 2SD1897 TO-220F
Q356	411030667C	S	TRS. 2SD667C TO-92M -RT-
Q357	411010647C	S	TRS. 2SB647C TO-92M -RT-
Q360	411452222L	S	TRS. FET VN2222LLRLRA -AT-
Q370	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q371	4110007330	S	TRS. 2SA733 TO-92M -RT-
Q374	411030667C	S	TRS. 2SD667C TO-92M -RT-
Q375	411010647C	S	TRS. 2SB647C TO-92M -RT-
Q376	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q4	4110105610	S	TRS. 2SB561 TO-92 -RT-
Q410	4100226880	S	TRS. 2SC2688 TO-126
Q420	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q5	4100226880	S	TRS. 2SC2688 TO-126
Q6	4101515070	S	TRS. MOSFET 2SK1507 TO-220
Q8	411022120Y	S	TRS. 2SC2120Y TO-92 -RT-
QP1	411022120Y	S	TRS. 2SC2120Y TO-92 -RT-
QP2	411022120Y	S	TRS. 2SC2120Y TO-92 -RT-

QP3	4101808400	S	TRS. MOSFET YTA840 TO-220AB
QP4	4116610010	S	TRS. RN1001 -RT-
QP5	4116610010	S	TRS. RN1001 -RT-
QP6	4110105610	S	TRS. 2SB561 TO-92 -RT-
R1	4050256455		RES-CF 1/2W J 560K -AT-
R12	4171051256		RES-MOF 1W J 5.1K -AT-
R13	4050218455		RES-CF 1/2W J 180K -AT-
R14	4050218455		RES-CF 1/2W J 180K -AT-
R16	4050520155		RES-CF 1/4W J 200R -AT- SMALL
R17	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R19	4257048451		RES-PR MF 1/4W F 8.45K SMALL -
R20	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R202	4050211255		RES-CF 1/2W J 1.1K -AT-
R203	4171015956		RES-MOF 1W J 1.5R -AT-
R204	4257047501		RES-PR MF 1/4W F 7.5K AT SMALL
R206	4050524955		RES-CF 1/4W J 2.4R SMALL -AT-
R21	4050582255		RES-CF 1/4W J 8.2K -AT- SMALL
R22	4050515355		RES-CF 1/4W J 15K -AT- SMALL
R23	4050515355		RES-CF 1/4W J 15K -AT- SMALL
R230	4177320353	S	RES-MOF 3W J 20K -SF- SMALL
R232	4050527455		RES-CF 1/4W J 270K SMALL -AT-
R24	4050547155		RES-CF 1/4W J 470R SMALL -AT-
R243	4050210955		RES-CF 1/2W J 1R -AT-
R244	4050210955		RES-CF 1/2W J 1R -AT-
R245	4050515355		RES-CF 1/4W J 15K -AT- SMALL
R25	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R26	4050551255		RES-CF 1/4W J 5.1K -AT- SMALL
R27	4050520355		RES-CF 1/4W J 20K -AT- SMALL
R28	4050551255		RES-CF 1/4W J 5.1K -AT- SMALL
R29	4050547055		RES-CF 1/4W J 47R -AT- SMALL
R3	7105010038	S	THMER. +-15% 10R 5A 15¢ W/KINK
R30	4050575155		RES-CF 1/4W J 750R SMALL -AT-
R301	409501415F	S	RES-WW 5W J 139R RSS
R302	4172018153	S	RES-MOF 2W J 180R -SF-
R303	4050522355		RES-CF 1/4W J 22K SMALL -AT-
R304	4172015953	S	RES-MOF 2W J 1.5R -SF-
R305	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R306	4172015953	S	RES-MOF 2W J 1.5R -SF-
R307	4171012158		RES-MOF 1W J 120R
R308	4172036053	S	RES-MOF 2W J 36R -SF-
R309	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R31	4050533055		RES-CF 1/4W J 33R -AT- SMALL
R310	4050568255		RES-CF 1/4W J 6.8K SMALL -AT-
R311	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R312	4050518455		RES-CF 1/4W J 180K SMALL -AT-
R313	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R314	4050562355		RES-CF 1/4W J 62K SMALL -AT-
R315	4050575355		RES-CF 1/4W J 75K SMALL -AT-
R316	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R317	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R318	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R319	4050591255		RES-CF 1/4W J 9.1K SMALL -AT-
R32	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R320	4177320353	S	RES-MOF 3W J 20K -SF- SMALL
R321	4050147055		RES-CF 1/2W J 47R -AT- SMALL
R322	409501805F	S	RES-WW 5W J 18R RSS-2
R324	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R325	4050575155		RES-CF 1/4W J 750R SMALL -AT-
R326	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R329	4172075853	S	RES-MOF 2W J 0.75R -SF-
R33	4050551255		RES-CF 1/4W J 5.1K -AT- SMALL
R333	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R34	4050527055		RES-CF 1/4W J 27R SMALL -AT-
R340	4172015955	S	RES-MOF 2W J 1.5R -18-
R344	4172015953	S	RES-MOF 2W J 1.5R -SF-
R348	4050522455		RES-CF 1/4W J 220K SMALL -AT-
R349	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R35	4050518055		RES-CF 1/4W J 18R -AT- SMALL
R350	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R351	4050247355		RES-CF 1/2W J 47K -AT-
R354	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R355	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R356	4180310255	S	RES-FUSIBLE 1/3W J 1K -AT-
R358	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R359	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R36	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
R360	4050518355		RES-CF 1/4W J 18K SMALL -AT-
R362	4050539355		RES-CF 1/4W J 39K SMALL -AT-
R363	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
R364	4050568155		RES-CF 1/4W J 680R SMALL -AT-

R365	4172033353	S	RES-MOF 2W J 33K -SF-
R366	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R367	4257043320		RES-PR MF 1/4W F 332R SMALL -A
R369	4050522355		RES-CF 1/4W J 22K SMALL -AT-
R37	4050547155		RES-CF 1/4W J 470R SMALL -AT-
R371	4050513455		RES-CF 1/4W J 130K SMALL -AT-
R372	4050512455		RES-CF 1/4W J 120K -AT- SMALL
R373	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R374	4172012153	S	RES-MOF 2W J 120R -SF-
R375	4257042101		RES-PR MF 1/4W F 2.1K SMALL -A
R376	4172036053	S	RES-MOF 2W J 36R -SF-
R377	4050543355		RES-CF 1/4W J 43K SMALL -AT-
R378	4257041001		RES-PR MF 1/4W F 1K AT SMALL
R379	4257044221		RES-PR MF 1/4W F 4.22K SMALL -
R38	4177224353	S	RES-MOF 2W J 24K SMALL -SF-
R380	4257041001		RES-PR MF 1/4W F 1K AT SMALL
R383	4257044221		RES-PR MF 1/4W F 4.22K SMALL -
R385	4257041002		RES-PR MF 1/4W F 10K AT SMALL
R39	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R398	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R399	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R40	409502025E	S	RES-WW 5W J 2K SQY-A
R403	4257044751		RES-PR MF 1/4W F 4.75K AT SMAL
R404	4257041003		RES-PR MF 1/4W F 100K AT SMALL
R405	4257041003		RES-PR MF 1/4W F 100K AT SMALL
R41	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R410	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R411	4257049312		RES-PR MF 1/4W F 93.1K AT SMAL
R414	4050510455		RES-CF 1/4W J 100K -AT- SMALL
R417	4050539255		RES-CF 1/4W J 3.9K -AT- SMALL
R42	4050513255		RES-CF 1/4W J 1.3K -AT- SMALL
R420	4172010053	S	RES-MOF 2W J 10R -SF-
R421	4050515455		RES-CF 1/4W J 150K SMALL -AT-
R422	4050220455		RES-CF 1/2W J 200K -AT-
R423	4050520455		RES-CF 1/4W J 200K -AT- SMALL
R424	4050520355		RES-CF 1/4W J 20K -AT- SMALL
R425	4050575255		RES-CF 1/4W J 7.5K -AT- SMALL
R426	4050568455		RES-CF 1/4W J 680K SMALL -AT-
R427	4050515355		RES-CF 1/4W J 15K -AT- SMALL
R428	4050551255		RES-CF 1/4W J 5.1K -AT- SMALL
R429	4050562455		RES-CF 1/4W J 620K SMALL -AT-
R43	4050556055		RES-CF 1/4W J 56R SMALL -AT-
R430	4050522355		RES-CF 1/4W J 22K SMALL -AT-
R431	4050520155		RES-CF 1/4W J 200R -AT- SMALL
R44	4050533055		RES-CF 1/4W J 33R -AT- SMALL
R441	4180320255	S	RES-FUSIBLE 0.33W J 2K -AT-
R442	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R443	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R45	4072033855	S	RES-MF 2W J 0.33R -AT-
R450	4050591255		RES-CF 1/4W J 9.1K SMALL -AT-
R451	4050510455		RES-CF 1/4W J 100K -AT- SMALL
R452	4050515455		RES-CF 1/4W J 150K SMALL -AT-
R453	4050510455		RES-CF 1/4W J 100K -AT- SMALL
R454	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R455	4050575355		RES-CF 1/4W J 75K SMALL -AT-
R458	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R46	4050222155		RES-CF 1/2W J 220R -AT-
R460	4120141480	S	DIODE 1N4148 (SI) -AT-
R461	4050527055		RES-CF 1/4W J 27R SMALL -AT-
R47	4171075356		RES-MOF 1W J 75K -AT-
R470	4257041602		RES-PR MF 1/4W F 16K AT SMALL
R471	4257041002		RES-PR MF 1/4W F 10K AT SMALL
R472	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R475	4257041151		RES-PR MF 1/4W F 1.15K SMALL -
R476	4257041002		RES-PR MF 1/4W F 10K AT SMALL
R477	4050533255		RES-CF 1/4W J 3.3K -AT- SMALL
R478	4257042212		RES-PR MF 1/4W F 22.1K SMALL -
R479	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
R48	4172010053	S	RES-MOF 2W J 10R -SF-
R480	4257049532		RES-PR MF 1/4W F 95.3K AT SMAL
R481	4257041103		RES-PR MF 1/4W F 110K AT SMALL
R483	4257041132		RES-PR MF 1/4W F 11.3K SMALL -
R485	4257047502		RES-PR MF 1/4W F 75K SMALL -AT
R486	4257043652		RES-PR MF 1/4W F 36.5K AT SMAL
R487	4257041132		RES-PR MF 1/4W F 11.3K SMALL -
R488	4257041003		RES-PR MF 1/4W F 100K AT SMALL
R489	4257041003		RES-PR MF 1/4W F 100K AT SMALL
R49	4257045621		RES-PR MF 1/4W F 5.62K SMALL -
R491	4257043652		RES-PR MF 1/4W F 36.5K AT SMAL
R492	4050515355		RES-CF 1/4W J 15K -AT- SMALL

R494	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R495	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R496	4257043652		RES-PR MF 1/4W F 36.5K AT SMAL
R497	4257041502		RES-PR MF 1/4W F 15K AT SMALL
R498	4257046041		RES-PR MF 1/4W F 6.04K SMALL -
R499	4257041502		RES-PR MF 1/4W F 15K AT SMALL
R4A0	4257042741		RES-PR MF 1/4W F 2.74K SMALL -
R4A1	4257041302		RES-PR MF 1/4W F 13K AT SMALL
R4A2	4050520255		RES-CF 1/4W J 2K -AT- SMALL
R4A3	4050151055		RES-CF 1/2W J 51R -AT- SMALL
R4A4	4050512255		RES-CF 1/4W J 1.2K -AT- SMALL
R4A5	4257042211		RES-PR MF 1/4W F 2.21K SMALL -
R4A6	4257042211		RES-PR MF 1/4W F 2.21K SMALL -
R4A7	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R4B0	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R4B7	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R4C0	4257041001		RES-PR MF 1/4W F 1K AT SMALL
R4C3	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R4C4	4257042151		RES-PR MF 1/4W F 2.15K AT SMAL
R4C5	4050575355		RES-CF 1/4W J 75K SMALL -AT-
R4D9	4050510455		RES-CF 1/4W J 100K -AT- SMALL
R5	4071033855		RES-MF 1W J 0.33R -AT-
R50	4257041001		RES-PR MF 1/4W F 1K AT SMALL
R51	4050222355		RES-CF 1/2W J 22K -AT-
R52	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R53	4050510253		RES-CF 1/4W J 1K -AT- SMALL
R54	4050591355		RES-CF 1/4W J 91K SMALL -AT-
R55	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R56	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R57	4050527455		RES-CF 1/4W J 270K SMALL -AT-
R59	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R6	4095010351	S	RES-WW 5W J 10K SQM-SF
R60	4171015953		RES-MOF 1W J 1.5R -SF-
R61	4050222155		RES-CF 1/2W J 220R -AT-
R62	4050520255		RES-CF 1/4W J 2K -AT- SMALL
R64	4050547155		RES-CF 1/4W J 470R SMALL -AT-
R65	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R66	4050533055		RES-CF 1/4W J 33R -AT- SMALL
R68	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R69	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R7	4171051256		RES-MOF 1W J 5.1K -AT-
R71	4171010053		RES-MOF 1W J 10R -SF-
R74	4050256455		RES-CF 1/2W J 560K -AT-
R75	4050575255		RES-CF 1/4W J 7.5K -AT- SMALL
R76	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R8	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
RL301	4420412002		RELAY 12V
RN301	4082051045		RES-NET 100K 5PIN COMMON
RN302	4082051045		RES-NET 100K 5PIN COMMON
RP10	4050568255		RES-CF 1/4W J 6.8K SMALL -AT-
RP11	4050510255		RES-CF 1/4W J 1K -AT- SMALL
RP12	4050510355		RES-CF 1/4W J 10K -AT- SMALL
RP13	4050510655	S	RES-CF 1/4W J 10M SMALL -AT-
RP14	4257047502		RES-PR MF 1/4W F 75K SMALL -AT
RP15	4050522055		RES-CF 1/4W J 22R SMALL -AT-
RP16	4050518255		RES-CF 1/4W J 1.8K -AT- SMALL
RP17	4050510355		RES-CF 1/4W J 10K -AT- SMALL
RP18	4050510355		RES-CF 1/4W J 10K -AT- SMALL
RP21	4050510255		RES-CF 1/4W J 1K -AT- SMALL
RP22	4050510255		RES-CF 1/4W J 1K -AT- SMALL
RP23	4172020253	S	RES-MOF 2W J 2K -SF-
RP24	4050522455		RES-CF 1/4W J 220K SMALL -AT-
RP4	4050510155		RES-CF 1/4W J 100R -AT- SMALL
RP5	4050510255		RES-CF 1/4W J 1K -AT- SMALL
RP6	4050510255		RES-CF 1/4W J 1K -AT- SMALL
RP7	4257041802		RES-PR MF 1/4W F 18K AT SMALL
RP8	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
RP9	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
SG1	5106122304		SPARK GAP 1.2KV AG-15 P:5.0MM
SK2	4490200207		CONN. 2P WAFER ROUND PIN 10MM
T1	7066330253		CHOKE COMMON MODE
T3	7050107F10	S	POWER TRANSFORMER
T301	7050207F10	S	DRIVER TRANSFORMER
T302	7050311700	S	F.B.T.
T401	7050519000	S	FOCUS TRANSFORMER
TP1	705025423L	S	DRIVER TRANSFORMER
VR1	5225150210		POT(CERMET) 0.3W 5K 6¢ LAY-DOW
VR301	5225150310		POT(CERMET) 0.3W 50K 6¢ LAY-DO
VR302	5225150410		POT(CERMET) 0.3W 500K 6¢ LAY-D
VR303	5221120200		POT(CERMET) 0.3W 2K 6¢ STAND-O

VRP1	5225110410		POT(CERMET) 0.3W 100K 6¢ LAY-D	
ZD1	4120502402	S	DIODE ZENER 1/2W 24V HZ24-2 -A	
ZD2	4120500152	S	DIODE ZENER 14.5-15.1V -AT-	
ZD3	412050138U	S	DIODE ZENER MTZJ13B -AT-	
ZD301	4120500152	S	DIODE ZENER 14.5-15.1V -AT-	
ZD305	412055279U	S	Z-D 1N5279B 0.5W 180V +-5% DO-	
ZD310	41205091CU	S	DIODE ZENER MTZJ9.1C -AT-	
ZD311	41205051AU	S	DIODE ZENER MTZJ5.1A -AT-	
ZD312	41205091CU	S	DIODE ZENER MTZJ9.1C -AT-	
ZD314	4120500152	S	DIODE ZENER 14.5-15.1V -AT-	
ZD4	41205091CU	S	DIODE ZENER MTZJ9.1C -AT-	
ZDP1	4120500152	S	DIODE ZENER 14.5-15.1V -AT-	
FB1	4322209046		FERRITE BEAD 2UH -AT-	

******	R07F100244-R3	S	NECK PCB ASS'Y	
	2009191530		HEAT SINK	FOR IC501
	3011100030		NUT ISO HEX M3 ZINC	FOR IC501
	4141112801		P.C.B. VIDEO 196x123mm	
	5541025095		CABLE TIE 2.5X90	FOR NECK SHIELD
	8026113008		SCREW B/HD M3X8 TAPPING "B"	FOR IC501 HEAT SINK & VIDEO PCB
	8504113010		SCREW BIND(+) M3X10 MACH W/DIS	FOR IC501
	C459430051		GND WIRE ASS'Y	FOR A
BP501	3340230165		BEAD PIN 16.5X2.3¢	
C500	515X100T01		CAP-ECX 10UFM 100V -RT-	
C501	5156100T50		CAP-EC6 10UFM 50V -RT-	
C502	5156100T50		CAP-EC6 10UFM 50V -RT-	
C503	5156100T50		CAP-EC6 10UFM 50V -RT-	
C504	5156109T50		CAP-EC6 1UFM 50V -RT-	
C505	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C506	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C507	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C508	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C509	5156101T16		CAP-EC6 100UFM 16V -RT-	
C510	515X109T50		CAP-ECX 1UFM 50V -RT-	
C511	515X100T50		CAP-ECX 10UFM 50V -RT-	
C512	5075104501		CAP-MEF 0.1UFJ 100V CF	
C513	5075104501		CAP-MEF 0.1UFJ 100V CF	
C514	5156109T50		CAP-EC6 1UFM 50V -RT-	
C515	7140104214		CAP-X7R 0.1UFM 100V -RT-	
C516	5156102S16		CAP-EC6 1000UFM 16V -SF-	
C517	5121470552		CAP-CCCH 47PFJ 50V -RT-	
C518	5074103102		CAP-MEF 0.01UFK 250V -SF-	
C519	515X470S01		CAP-ECX 47UFM 100V -SF-	
C520	5156100T50		CAP-EC6 10UFM 50V -RT-	
C521	5121470552		CAP-CCCH 47PFJ 50V -RT-	
C522	5121470552		CAP-CCCH 47PFJ 50V -RT-	
C523	5075104501		CAP-MEF 0.1UFJ 100V CF	
C524	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C526	5101102152		CAP-CCB 1000PFK 50V -RT-	
C527	5103103430		CAP-CCE 0.01UFM 1KV	
C528	5156100T50		CAP-EC6 10UFM 50V -RT-	
C529	5104103463		CAP-CCF 0.01UFZ 1.5KV -SF-	
C530	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C531	5121101552		CAP-CCCH 100PFJ 50V -RT-	
C532	7140104214		CAP-X7R 0.1UFM 100V -RT-	
C533	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C534	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C535	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C536	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C537	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C538	515X109T50		CAP-ECX 1UFM 50V -RT-	
C539	5156109T01		CAP-EC6 1UFM 100V -RT-	
C540	5156109T01		CAP-EC6 1UFM 100V -RT-	
C541	5156109T01		CAP-EC6 1UFM 100V -RT-	
C542	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C543	5074104102		CAP-MEF 0.1UFK 250V -SF-	
C544	7140104214		CAP-X7R 0.1UFM 100V -RT-	
C545	5101102152		CAP-CCB 1000PFK 50V -RT-	
C546	5116222550		CAP-MC 0.0022UFJ 50V -RT-	
C547	5121151552		CAP-CCCH 150PFJ 50V -RT-	
C548	5128471552		CAP-CCSL 470PFJ 50V -RT-	
C550	5156109T50		CAP-EC6 1UFM 50V -RT-	
C551	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C552	5101222152		CAP-CCB 2200PFK 50V -RT-	
C553	7142104254		CAP-Z5U 0.1UFM 50V -RT-	
C554	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C570	5156100T50		CAP-EC6 10UFM 50V -RT-	
C571	5121101552		CAP-CCCH 100PFJ 50V -RT-	

C573	5134104452		CAP-SCF 0.1UFZ 50V -RT-
C589	5156100T5D		CAP-EC6 10UFM 50V -RT-
CRT501	4570307H10		CRT SOCKET 2SDS08S
D502	4120141480	S	DIODE 1N4148 (SI) -AT-
D503	4120141480	S	DIODE 1N4148 (SI) -AT-
D504	4120141480	S	DIODE 1N4148 (SI) -AT-
D505	4120141480	S	DIODE 1N4148 (SI) -AT-
D506	4120141480	S	DIODE 1N4148 (SI) -AT-
D507	4120141480	S	DIODE 1N4148 (SI) -AT-
D510	413258020U	S	DIODE BAV20 DO-35 -AT-
D511	413258020U	S	DIODE BAV20 DO-35 -AT-
D512	413258020U	S	DIODE BAV20 DO-35 -AT-
D513	4120141480	S	DIODE 1N4148 (SI) -AT-
D514	4120141480	S	DIODE 1N4148 (SI) -AT-
D515	4120141480	S	DIODE 1N4148 (SI) -AT-
D516	413258020U	S	DIODE BAV20 DO-35 -AT-
D517	413258020U	S	DIODE BAV20 DO-35 -AT-
D518	413258020U	S	DIODE BAV20 DO-35 -AT-
D519	4120141480	S	DIODE 1N4148 (SI) -AT-
D520	4120141480	S	DIODE 1N4148 (SI) -AT-
D521	415943100A	S	IC TL431 REGULATOR TO-92 -RT-
D522	413258020U	S	DIODE BAV20 DO-35 -AT-
D523	413258020U	S	DIODE BAV20 DO-35 -AT-
D524	413258020U	S	DIODE BAV20 DO-35 -AT-
D525	413010426C	S	DIODE BYV26C KINK FORMING -AT-
D526	4120141480	S	DIODE 1N4148 (SI) -AT-
D527	4120141480	S	DIODE 1N4148 (SI) -AT-
D528	4120141480	S	DIODE 1N4148 (SI) -AT-
D529	4120141480	S	DIODE 1N4148 (SI) -AT-
D530	4120141480	S	DIODE 1N4148 (SI) -AT-
D531	4120141480	S	DIODE 1N4148 (SI) -AT-
FB501	4322209046		FERRITE BEAD 2UH -AT-
FB502	4322309006		FERRITE BEAD 3UH -AT-
FB503	4322309006		FERRITE BEAD 3UH -AT-
FB504	4322309004		FERRITE BEAD 3uH
FB505	4322209046		FERRITE BEAD 2UH -AT-
FB510	4322209046		FERRITE BEAD 2UH -AT-
FB512	4322209046		FERRITE BEAD 2UH -AT-
FB513	4322209046		FERRITE BEAD 2UH -AT-
IC501	4159241900	S	IC LM2419 11 PIN
IC502	4159942010	S	IC STV9420-4 16PIN
IC503	4159120700	S	IC LM1207N 28PIN
IC504	4159393000	S	IC LM 393 8PIN
IC505	4159844N00	S	IC TDA8444N 16PIN
L501	432A338C06		COIL PEAKING 0.33uH SMALL -AT-
L502	432A338C06		COIL PEAKING 0.33uH SMALL -AT-
L503	432A338006		COIL PEAKING 0.33uH SMALL -AT-
P501	4491200300		BASE 12P 2.54MM SXB-XH-A
Q500	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q501	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q502	4110219210	S	TRS. 2SC1921 TO-92M -RT-
Q503	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q504	4110219210	S	TRS. 2SC1921 TO-92M -RT-
Q505	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q506	4110219210	S	TRS. 2SC1921 TO-92M -RT-
Q507	411001376A	S	TRS. 2SA1376A TO-92 -RT-
Q508	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q509	411030667C	S	TRS. 2SD667C TO-92M -RT-
Q510	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q511	4110007330	S	TRS. 2SA733 TO-92M -RT-
Q512	4110007330	S	TRS. 2SA733 TO-92M -RT-
Q513	4110007330	S	TRS. 2SA733 TO-92M -RT-
Q515	4111139040	S	TRS. 2N3904 TO-92 -RT-
R501	4257041479		RES-PR MF 1/4W F 14.7R SMALL -
R502	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R503	4257046049		RES-PR MF 1/4W F 60.4R SMALL -
R504	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R505	4257047509		RES-PR MF 1/4W F 75R AT SMALL
R506	4257047509		RES-PR MF 1/4W F 75R AT SMALL
R507	4257042209		RES-PR MF 1/4W F 22R SMALL -AT
R508	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R509	4050530455		RES-CF 1/4W J 300K SMALL -AT-
R50A	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R50C	4050518555	S	RES-CF 1/4W J 1.8M SMALL -AT-
R510	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R511	4257041003		RES-PR MF 1/4W F 100K AT SMALL
R514	4050533055		RES-CF 1/4W J 33R -AT- SMALL
R515	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
R518	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R519	4050547355		RES-CF 1/4W J 47K -AT- SMALL

R520	4050539355		RES-CF 1/4W J 39K SMALL -AT-
R522	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R523	4257042321		RES-PR MF 1/4W F 2.32K AT SMAL
R524	4050520155		RES-CF 1/4W J 200R -AT- SMALL
R525	4050539155		RES-CF 1/4W J 390R -AT- SMALL
R526	4050520155		RES-CF 1/4W J 200R -AT- SMALL
R527	4050539155		RES-CF 1/4W J 390R -AT- SMALL
R528	4050520155		RES-CF 1/4W J 200R -AT- SMALL
R529	4050539155		RES-CF 1/4W J 390R -AT- SMALL
R530	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R531	4050547355		RES-CF 1/4W J 47K -AT- SMALL
R532	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R533	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R534	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R535	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R537	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R538	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R539	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R540	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R541	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R543	4050520255		RES-CF 1/4W J 2K -AT- SMALL
R544	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R545	4050582155		RES-CF 1/4W J 820R -AT- SMALL
R546	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
R547	4050522455		RES-CF 1/4W J 220K SMALL -AT-
R548	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R549	4171022256		RES-MOF 1W J 2.2K -AT-
R550	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R551	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R552	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R553	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R554	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R555	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R556	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R557	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R558	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R559	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R560	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R561	4060222115		RES-CC 1/2W K 220R -AT-
R562	4060222115		RES-CC 1/2W K 220R -AT-
R563	4060222115		RES-CC 1/2W K 220R -AT-
R564	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R565	4060210115		RES-CC 1/2W K 100R -AT-
R566	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R568	4050582155		RES-CF 1/4W J 820R -AT- SMALL
R570	4050515155		RES-CF 1/4W J 150R SMALL -AT-
R572	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R573	4050522455		RES-CF 1/4W J 220K SMALL -AT-
R574	4050539255		RES-CF 1/4W J 3.9K -AT- SMALL
R575	4060251315		RES-CC 1/2W K 51K -AT-
R576	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R579	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R580	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R581	4050162155		RES-CF 1/2W J 620R SMALL -AT-
R582	4050162155		RES-CF 1/2W J 620R SMALL -AT-
R583	4050162155		RES-CF 1/2W J 620R SMALL -AT-
R584	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R585	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R586	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R587	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R588	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R591	4050547355		RES-CF 1/4W J 47K -AT- SMALL
R592	4050139355		RES-CF 1/2W J 39K SMALL -AT-
SG2	5106152303		SPARK GAP 1.5KV AG-20 P:6.4MM
X501	7150120000		X'TAL 12MHZ
ZD506	41205051AU	S	DIODE ZENER MTZJ5.1A -AT-
ZD507	41205051AU	S	DIODE ZENER MTZJ5.1A -AT-
ZD508	41205036AU	S	DIODE ZENER MTZJ3.6A -AT-

******	**********		CHASSIS PARTS ASS'Y	
	1010194310	S	FOOT	
	1013094180		REVLT ¢3	FOR LOGIC BOARD & FIXED PLATE
	1015094610		DOOR LOCK 4U66	
	1301117F16	S	BEZEL	
	1302117F10	S	#BUCKET	
	1321017F10		CONTROL PANEL	
	1340017F10	S	DOOR	
	1360014E10		#CAP	

	1376017F10		BEZEL BRACKET	
	1604017F10		TILT BALL	
	1605017F10	S	BASE	
	1A100C7F10		RETAINER	
	2001097G21		LOGIC FIXED PLATE	FOR FBT COVER & LOGIC PCB
	2002094383		WASHER SPRING WAVE	FOR BASE & RETAINER
	2013097F10		CHASSIS REAR A	
	2016097F10		NECK SHIELD (B)	
	2017094030		GROUND CLAMP	
	3011100040		NUT M4 ZN3C	FOR BASE & RETAINER
	3060040060		RIVET NYLON 4.0X6.0	FOR FIXED PLATE & FBT COVER X1
	3111401210		WASHER FLAT #8D D=12 T=1 ZINC	FOR BASE & RETAINER
	36023000U5		NYLON WASHER (U-5)	FOR CONTROL PCB
	36523BS19P		SPACER SUPPORT CBS-19P	FOR MAIN PCB
	366230SR4S		NYLON RIVET SR-4S	FOR BEZEL & U BKT
	4410302013		POWER SWITCH R13-73A-2 SPST	
	463310001N		AC POWER CORD WALL UL/CSA GRY	
	5530200102		CORD CRAMPER TH-A	FOR NECK SHIELD
	5530311005		SUPPORT PCB	
	5541025095		CABLE TIE 2.5X90	
	5541025095		CABLE TIE 2.5X90	
	5541025095		CABLE TIE 2.5X90	FOR 1C07 #22 GRY 2060MM
	5541025160		CABLE TIE-BINDING 2.5X160	
	7010027717	S	CRT M41KV2180X11 (UQ)	HITACHI CRT
	7020177F10		DEGAUSSING COIL 120 TURN	
	7067F20122	S	LINE FILTER IX-0342-P	
	8004114025		SCREW BIND (+) ZINC M4X25	FOR BASE & RETAINER
	8024113008		SCREW STEEL TRI "B" TAPPING FL	FOR AC LINE FILTER
	8059113522		SCREW BIND(+) B-2 M3.5X22 TAPP	FOR BEZEL & BUCKET X4
	8121114008		SCREW CAP BID(+) M4X8 TAPPING"	FOR I/O CABLE CLIP
	8127113006		SCREW PAN(+)/HD CAP TAPPING M3	FOR GND WIRE
	8418113008		SCREW B/HD M3X8 TAPPING "P"	FOR CONTROL PCB & PANEL A
	9004095G21		SPACER	FOR NECK SHIELD & NECK PCB ASS'Y
	9005297F10	S	FUNCTION KEY	
	9008097F10		DECO PLATE (I/O CABLE)	
	9012697F16		#MANUAL & GREEN SOFTWARE	
	9021097G10		SPONGE	FOR NECK SHIELD B
	C001137G22		CRT BRAID WIRE ASS'Y	
	C367F10030		RUBBER WASHER & SCREW ASS'Y	
	C4597F1011		GND WIRE ASS'Y	FOR VIDEO SHIELD TO BACK METAL
	C4597F1021		GND WIRE ASS'Y 100MM	FOR VIDEO SHIELD TO BACK METAL
	C4597G2120		GND WIRE ASS'Y	FOR CONTROL PCB
	C460670110		TILT RING WIRE ASS'Y 270mm	FOR HITACHI CRT
	C7107F1010	S	I/O CABLE ASS'Y	

******		S	CONTROL PCB ASS'Y	
	4141113000		P.C.B. CONTROL	
	C488141010		CONN. 14P & WIRE ASS'Y	
C791	5156479T50		CAP-EC6 4.7UFM 50V -RT-	
LED701	412060024T	S	LED O/G CHIP 4PIN	
R7A1	4050522155		RES-CF 1/4W J 220R SMALL -AT-	
R7A2	4050522155		RES-CF 1/4W J 220R SMALL -AT-	
R7A3	4050510355		RES-CF 1/4W J 10K -AT- SMALL	
SW701	4410507F10	S	SWITCH POLYDOME 1KEY	
TR711	4110007330	S	TRS. 2SA733 TO-92M -RT-	
TR712	4110007330	S	TRS. 2SA733 TO-92M -RT-	

******		S	LOGIC PCB ASS'Y	
	4141111305		#P.C.B. LOGIC	
	415AG03000		FIRMWARE VERSION: G030	
C701	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C702	515X100T25		CAP-ECX 10UFM 25V -RT-	
C703	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C704	5156109T50		CAP-EC6 1UFM 50V -RT-	
C705	7183102556		CAP-COG 1000PFJ 50V CHIP 0805	
C706	515X100T25		CAP-ECX 10UFM 25V -RT-	
C707	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C708	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C709	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C710	515X100T25		CAP-ECX 10UFM 25V -RT-	
C711	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C712	7183220556		CAP-COG 22PFJ 50V CHIP 0805	
C713	7183220556		CAP-COG 22PFJ 50V CHIP 0805	
C715	7183102556		CAP-COG 1000PFJ 50V CHIP 0805	
C717	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C719	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	

C721	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
C722	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
C723	7144223156	CAP-X7R 0.022UFK 50V CHIP 0805
C725	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
C727	7183101556	CAP-COG 100PFJ 50V CHIP 0805
C728	7183102556	CAP-COG 1000PFJ 50V CHIP 0805
C730	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
C780	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
D701	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D703	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D704	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D705	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D707	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D708	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D709	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D710	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D711	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D712	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D713	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D714	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D715	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D717	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D720	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D722	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D723	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
IC701	4159805427	IC 80C54 PLCC 44PIN G030(2EF4)
IC702	415924L16T	IC 24LC16BSN (SOIC) 8PIN
IC703	415924210T	IC 24LC21 (SOIC) 8PIN
IC704	415707486T	IC 74HCT86 SMD CHIP 14PIN
IC705	415507474T	IC 74HC74 SMD CHIP 14PIN
IC706	415A07400T	IC 74ACO0 SMD 14PIN
IC707	415A07414T	IC 74AC14 SMD 14PIN
IC708	415908200T	IC TL082-CD SMD 8PIN
P701	4491425420	CONN. 14P
R701	4010110252	RES-CHIP 1/10W J 1K 0805
R702	4010110252	RES-CHIP 1/10W J 1K 0805
R703	4010124452	RES-CHIP 1/10W J 240K 0805 -AT
R704	4010133252	RES-CHIP 1/10W J 3.3K
R705	4010113452	RES-CHIP 1/10W J 130K 0805 -AT
R706	4010133252	RES-CHIP 1/10W J 3.3K
R707	4010122152	RES-CHIP 1/10W J 220R 0805
R708	4010122152	RES-CHIP 1/10W J 220R 0805
R709	4010122152	RES-CHIP 1/10W J 220R 0805
R710	4010122152	RES-CHIP 1/10W J 220R 0805
R712	4010122152	RES-CHIP 1/10W J 220R 0805
R713	4010122152	RES-CHIP 1/10W J 220R 0805
R715	4010122352	RES-CHIP 1/10W J 22K 0805 -AT-
R716	4010122152	RES-CHIP 1/10W J 220R 0805
R717	4010122352	RES-CHIP 1/10W J 22K 0805 -AT-
R718	4010110352	RES-CHIP 1/10W J 10K 0805
R719	4010147252	RES-CHIP 1/10W J 4.7K 0805
R720	4010122252	RES-CHIP 1/10W J 2.2K 0805
R722	4010110352	RES-CHIP 1/10W J 10K 0805
R723	4010110352	RES-CHIP 1/10W J 10K 0805
R724	4010110352	RES-CHIP 1/10W J 10K 0805
R725	4010130452	RES-CHIP 1/10W J 300K 0805 -AT
R726	4010112452	RES-CHIP 1/10W J 120K 0805 -AT
R727	4010112452	RES-CHIP 1/10W J 120K 0805 -AT
R728	4010122152	RES-CHIP 1/10W J 220R 0805
R729	4010110352	RES-CHIP 1/10W J 10K 0805
R730	4010122152	RES-CHIP 1/10W J 220R 0805
R731	4010147252	RES-CHIP 1/10W J 4.7K 0805
R732	4010122152	RES-CHIP 1/10W J 220R 0805
R733	4010147252	RES-CHIP 1/10W J 4.7K 0805
R734	4010110352	RES-CHIP 1/10W J 10K 0805
R735	4010133252	RES-CHIP 1/10W J 3.3K
R736	4010122152	RES-CHIP 1/10W J 220R 0805
R737	4010122152	RES-CHIP 1/10W J 220R 0805
R738	4010122152	RES-CHIP 1/10W J 220R 0805
R739	4010122152	RES-CHIP 1/10W J 220R 0805
R740	4010122152	RES-CHIP 1/10W J 220R 0805
R741	4010122152	RES-CHIP 1/10W J 220R 0805
R742	4010122152	RES-CHIP 1/10W J 220R 0805
R744	4010110152	RES-CHIP 1/10W J 100R 0805
R745	4010110152	RES-CHIP 1/10W J 100R 0805
R746	4010151252	RES-CHIP 1/10W J 5.1K 0805
R747	4010110452	RES-CHIP 1/10W J 100K 0805
R748	4010118252	RES-CHIP 1/10W J 1.8K 0805
R749	4010122252	RES-CHIP 1/10W J 2.2K 0805
R750	4010110352	RES-CHIP 1/10W J 10K 0805

R751	4010110352		RES-CHIP 1/10W J 10K 0805
R752	4010175352		RES-CHIP 1/10W J 75K 0805 -AT-
R753	4010110252		RES-CHIP 1/10W J 1K 0805
R757	4010110252		RES-CHIP 1/10W J 1K 0805
R758	4010143052		RES-CHIP 1/10W J 43R 0805
R759	4010122152		RES-CHIP 1/10W J 220R 0805
R760	4010168252		RES-CHIP 1/10W J 6.8K 0805
R761	4010122352		RES-CHIP 1/10W J 22K 0805 -AT-
R762	4010110152		RES-CHIP 1/10W J 100R 0805
R764	4010122152		RES-CHIP 1/10W J 220R 0805
R765	4010120352		RES-CHIP 1/10W J 20K 0805
R766	4010122252		RES-CHIP 1/10W J 2.2K 0805
R767	4010147352		RES-CHIP 1/10W J 47K 0805
R768	4010147352		RES-CHIP 1/10W J 47K 0805
R769	4010147352		RES-CHIP 1/10W J 47K 0805
R770	4010147352		RES-CHIP 1/10W J 47K 0805
R771	4010122252		RES-CHIP 1/10W J 2.2K 0805
R772	4010133252		RES-CHIP 1/10W J 3.3K
R773	4010133252		RES-CHIP 1/10W J 3.3K
R774	4010133252		RES-CHIP 1/10W J 3.3K
R775	4010133252		RES-CHIP 1/10W J 3.3K
R776	4010133252		RES-CHIP 1/10W J 3.3K
R777	4010115352		RES-CHIP 1/10W J 15K 0805
R778	4010175352		RES-CHIP 1/10W J 75K 0805 -AT-
R780	4010110352		RES-CHIP 1/10W J 10K 0805
R784	4010110352		RES-CHIP 1/10W J 10K 0805
R785	4010133252		RES-CHIP 1/10W J 3.3K
R786	4010122152		RES-CHIP 1/10W J 220R 0805
R787	4010133252		RES-CHIP 1/10W J 3.3K
R788	4010122152		RES-CHIP 1/10W J 220R 0805
R791	4010110352		RES-CHIP 1/10W J 10K 0805
R792	4010147352		RES-CHIP 1/10W J 47K 0805
R795	4010110352		RES-CHIP 1/10W J 10K 0805
R796	4010133252		RES-CHIP 1/10W J 3.3K
R797	4010133252		RES-CHIP 1/10W J 3.3K
R799	4010122152		RES-CHIP 1/10W J 220R 0805
TR701	4110209459		TRS. 2SC945P TO-92 -RT-
TR702	4116612030		TRS. RN1203 -RT-
TR703	4116612030		TRS. RN1203 -RT-
TR705	4116612030		TRS. RN1203 -RT-
TR706	4110007330		TRS. 2SA733 TO-92M -RT-
TR707	4116612030		TRS. RN1203 -RT-
TR708	4116612030		TRS. RN1203 -RT-
X701	7151474563		CRYSTAL 14.7456MHZ
ZD701	412050051T		DIODE ZENER 5.1V +-5% MLF SMD
ZD702	412050051T		DIODE ZENER 5.1V +-5% MLF SMD
ZD703	412050051T		DIODE ZENER 5.1V +-5% MLF SMD

******		S	CONNECTOR PCB ASS'Y
	4141107300		P.C.B. CONNECTOR
	4490400207		CONN. 4P WAFER ROUND PIN
	C488040051		CONN. 4P & WIRE ASS'Y W/CORE

Model No. 1769DC-2 (Europe)

1997.01.22

ADDRESS	Item Number	SPARE	Description	Comment
******		S	MAIN PCB ASS'Y	
	2000000011		CLIP WIRE	FOR Q6 HEAT SINK
	2001297F10		U BRACKET	
	2003197301		HEAT SINK	FOR Q6
	2004191630		HEAT SINK HOLDER	FOR Q6
	2005297F10		FBT COVER	
	2006097F10		SUPPORT FBT	FOR SAMPO & MATSUSHITA FBT ONLY
	200909632D		HEAT SINK	FOR IC202
	2015097F10		NECK SHIELD (F)	
	2046294000		HEAT SINK F	FOR Q305
	2046294000		HEAT SINK F	FOR Q308
	3050015030		#EYELET	FOR C306
	3052000300		EYELET	FOR FBT X3
	3340101525		BEAD PIN 1.5¢ L=25	FOR R340 X2
	3340230165		BEAD PIN 16.5X2.3¢	FOR R3
	363200TR02		TR HOUSING TR-02	FOR Q308
	4141108522		P.C.B. MAIN	
	4692300001	S	CLIP-FUSE 5MM	FOR F1
	5290003000		TUBE-SHRINK ID=3¢	FOR R340
	5290004000		TUBE-SHRINK ID=4¢ 125 DEGREE C	FOR R301
	5322280004		WIRE 1007 #22 GRY 2060-TERM1.8	
	5324100900		WIRE UL1007 #24 BLK 80-K-K	FOR A-A'
	5541025095		CABLE TIE 2.5X90	FOR CORD & FBT ASS'Y X2,P3 WIRE & FBT COVER ASS'Y
	5560080003		CORE-FE 26436658C2	
	8026113008		SCREW B/HD M3X8 TAPPING "B"	ROR MAIN PCB & FBT COVER X2,MAIN PCB & U BKT X1,
	8121114008		SCREW CAP BID(+) M4X8 TAPPING"	FOR CHASSIS REAR MAIN GND
	8127113006		SCREW PAN(+)/HD CAP TAPPING M3	FOR CHAS REAR & U BKT X2,MAIN PCB & U-BKT X1
	8283113015		SCREW BIND(+) M3X15 MACH W/SPR	FOR Q6
	8418114010		SCREW BIND(+) M4X10 ZINC TAPPI	FOR FBT & FBT COVER
	8504113006		SCREW BID(+) M3X6 MACH W/DISK	FOR FBT SUPPORT X2(SAMPO & MATSUSHITA FBT ONLY)
	8504113006		SCREW BID(+) M3X6 MACH W/DISK	FOR Q308
	8504113008		SCREW BIND(+) M3X8 MACH W/DISK	FOR Q305
	8504113010		SCREW BIND(+) M3X10 MACH W/DIS	FOR D301,303,332,Q301,355
	8504113010		SCREW BIND(+) M3X10 MACH W/DIS	FOR IC202
	8511113006		SCREW PANCH CAP/FLAT M3X6 "B"	FOR CHAS REAT & MAIN PCB X3
	8512143008		SCREW PAN(+)/HD TAPPING TRIANG	FOR Q6 & PCB
	9011294230		LABEL 28KV	
	C459162010		GND WIRE ASS'Y BLK	FOR F TO CHASSIS
	C488102015		CONN. 10P & ASS'Y W/CORE	FOR P3 & P4
BD1	4130600606	S	DIODE RBV-606 6A/600V	
C10	5074104506		CAP-MEF 0.1UFJ 630V P:15MM -SF	
C12	5156221T25		CAP-EC6 220UFM 25V -RT-	
C13	5116102111		CAP-MC 0.001UFK 100V -RT-	
C14	5092103615		CAP-PP .01UFG 100V P:10mm -SF-	
C15	5156101T25		CAP-EC6 100UFM 25V -RT-	
C16	5116472111		CAP-MC 0.0047UFK 100V -RT-	
C17	7143104452		CAP-Z5U 0.1UFZ 50V -AT-	
C18	7143104452		CAP-Z5U 0.1UFZ 50V -AT-	
C19	5128331552		CAP-CCSL 330PFJ 50V -RT-	
C20	510H4711C3		CAP-CCR 470PFK 2KV P:7.5mm -SF	
C202	5156221T35		CAP-EC6 220UFM 35V -RT-	
C203	5101102152		CAP-CCB 1000PFK 50V -RT-	
C206	5113224111		CAP-MC 0.22UFK 100V -SF-	
C207	5116104150		CAP-MC 0.1UFK 50V -RT-	
C208	5116103111		CAP-MC 0.01UFK 100V -RT-	
C21	5156220S07		CAP-EC6 22UFM 200V 10X20MM -SF	
C22	5101101132		CAP-CCB 100PFK 1KV -RT-	
C23	515X151S02		CAP-ECX 150UFM 160V -SF-	
C231	515X471S25		CAP-ECX 470UFM 25V -SF-	
C232	515X471S25		CAP-ECX 470UFM 25V -SF-	
C24	515X101S01		CAP-ECX 100UFM 100V -SF-	
C25	515F471S25		CAP-ECF 470UFM 25V -SF-	
C27	515X102S25		CAP-ECX 1000UFM 25V -SF-	
C28	5074104101		CAP-MEF 0.1UFK 100V -SF-	
C29	5128471552		CAP-CCSL 470PFJ 50V -RT-	
C30	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C302	515X221T25		CAP-ECX 220UFM 25V -RT-	
C303	5116104111		CAP-MC 0.1UFK 100V -RT-	
C304	5116153111		CAP-MC 0.015UFK 100V -RT-	
C306	51926825A3		CAP-MPR 6800PFJ 2KV P:22.5mm	
C307	5190682533		CAP-MPP 0.0068UFJ 1.2K P:15mm	
C308	5074475101		CAP-MEF 4.7UFK 100V -SF-	
C31	5116104150		CAP-MC 0.1UFK 50V -RT-	

C310	515X221T25	CAP-ECX 220UFM 25V -RT-
C311	5195394543	CAP-PMA 0.39UFJ 400V -SF-
C312	5116104111	CAP-MC 0.1UFK 100V -RT-
C313	5190334543	CAP-MPP 0.33UFJ 400V P:22.5MM
C315	5156470T50	CAP-EC6 47UFM 50V -RT-
C316	515X471S25	CAP-ECX 470UFM 25V -SF-
C317	515X471S25	CAP-ECX 470UFM 25V -SF-
C318	5128391552	CAP-CCSL 390PFJ 50V -RT-
C319	5156479T50	CAP-EC6 4.7UFM 50V -RT-
C32	5101101132	CAP-CCB 100PFK 1KV -RT-
C320	5156100S03	CAP-EC6 10UFM 250V -SF-
C322	5101821152	CAP-CCB 820PFK 50V -RT-
C323	5074333102	CAP-MEF 0.033UFK 250V P:10mm -
C324	5190824543	CAP-MPP 0.82UFJ 400V -SF-
C325	5113224150	CAP-MC 0.22UFK 50V -SF-
C326	5074104104	CAP-MEF 0.1UFK 400V P:15MM -SF
C33	515X102S25	CAP-ECX 1000UFM 25V -SF-
C330	5116104150	CAP-MC 0.1UFK 50V -RT-
C331	5092102565	CAP-PP 0.001UFJ 630V P:5MM -SF
C334	5116104111	CAP-MC 0.1UFK 100V -RT-
C339	5074684101	CAP-MEF 0.68UFK 100V -SF-
C34	515X101T16	CAP-ECX 100UFM 16V -RT-
C342	5101102132	CAP-CCB 1000PFK 1KV -RT-
C344	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C345	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C347	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C350	5156109T50	CAP-EC6 1UFM 50V -RT-
C354	5156220T25	CAP-EC6 22UFM 25V -RT-
C355	5156478T50	CAP-EC6 0.47UFM 50V -RT-
C357	5116682111	CAP-MC 6800PFK 100V -RT-
C358	5116473111	CAP-MC 0.047UFK 100V -RT-
C359	5128221552	CAP-CCSL 220PFJ 50V -RT-
C36	515F471S25	CAP-ECF 470UFM 25V -SF-
C360	5101471132	CAP-CCB 470PFK 1KV -RT-
C362	5092222615	CAP-PP 0.0022UFG 100V P:7.5mm
C364	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C365	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C366	5156102216	CAP-EC 1000UFM 16V 10(D)X16(L)
C378	5156229T50	CAP-EC6 2.2UFM 50V -RT-
C380	5156471S16	CAP-EC6 470UFM 16V -SF-
C381	5116104150	CAP-MC 0.1UFK 50V -RT-
C383	5156100T35	CAP-EC6 10UFM 35V -RT-
C386	5156330T16	CAP-EC6 33UFM 16V -RT-
C39	5101102132	CAP-CCB 1000PFK 1KV -RT-
C390	5156101T25	CAP-EC6 100UFM 25V -RT-
C391	5156100T01	CAP-EC6 10UFM 100V -RT-
C392	5156478T50	CAP-EC6 0.47UFM 50V -RT-
C394	5128101152	CAP-CCSL 100PFK 50V -RT-
C395	5128101152	CAP-CCSL 100PFK 50V -RT-
C396	5156100T50	CAP-EC6 10UFM 50V -RT-
C398	5116103111	CAP-MC 0.01UFK 100V -RT-
C4	5067224425	CAP-MPR 0.22UFM 250V -SF-
C410	5074153104	CAP-MEF 0.015UFK 400V P:10MM -
C411	5113224111	CAP-MC 0.22UFK 100V -SF-
C412	5074103104	CAP-MEF 0.01UFK 400V P:10.0MM
C413	5162229T50	CAP-NPEC 2.2UFM 50V -RT-
C414	5116104111	CAP-MC 0.1UFK 100V -RT-
C415	5116104111	CAP-MC 0.1UFK 100V -RT-
C417	5116104150	CAP-MC 0.1UFK 50V -RT-
C42	5156470T01	CAP-EC6 47UFM 100V -RT-
C420	5156101T50	CAP-EC6 100UFM 50V -RT-
C421	5156109T50	CAP-EC6 1UFM 50V -RT-
C423	5162100T50	CAP-NP 10UFM 50V RT 85C
C424	5116393150	CAP-MC 0.039UFK 50V -RT-
C425	5156109T50	CAP-EC6 1UFM 50V -RT-
C426	5116104150	CAP-MC 0.1UFK 50V -RT-
C427	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C428	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C429	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C430	5134104452	CAP-SCF 0.1UFZ 50V -RT-
C431	5144471550	CAP-P +-5% 470PF/50V -SF-
C432	5075334505	CAP-MEF 0.33UFJ 50V P:5mm -RT-
C433	5156470T16	CAP-EC6 47UFM 16V -RT-
C47	5101103112	CAP-CCB 0.01UFK 100V -RT-
C49	5101102132	CAP-CCB 1000PFK 1KV -RT-
C4A2	5156101T25	CAP-EC6 100UFM 25V -RT-
C4A3	5116104150	CAP-MC 0.1UFK 50V -RT-
C4A4	5116102650	CAP-MC 0.001UFG 50V -RT-
C4A5	5116103111	CAP-MC 0.01UFK 100V -RT-
C4A6	5156221T16	CAP-EC6 220UFM 16V -RT-

C4A7	5134104452		CAP-SCF 0.1UFZ 50V -RT-
C4A9	5134104452		CAP-SCF 0.1UFZ 50V -RT-
C4B0	5156100T50		CAP-EC6 10UFM 50V -RT-
C4B1	5156100T16		CAP-EC6 10UFM 16V -RT-
C4B2	5134104452		CAP-SCF 0.1UFZ 50V -RT-
C4B5	5134104452		CAP-SCF 0.1UFZ 50V -RT-
C4B8	5156101T16		CAP-EC6 100UFM 16V -RT-
C4B9	5156100T50		CAP-EC6 10UFM 50V -RT-
C5	5061472440		CAP-CCS 4700PFM 400V -SF-
C52	5128221552		CAP-CCSL 220PFJ 50V -RT-
C55	5075474505		CAP-MEF 0.47UFJ 50V -RT-
C6	5061472440		CAP-CCS 4700PFM 400V -SF-
C60	515F221T25		CAP-ECF 220UFM 25V -RT-
C61	5156100T50		CAP-EC6 10UFM 50V -RT-
C7	5061472440		CAP-CCS 4700PFM 400V -SF-
C8	5061472440		CAP-CCS 4700PFM 400V -SF-
C9	515P331S04		CAP-ECP 330UFM 400V -SF-
CP10	515X221S07		CAP-ECX 220UFM 200V -SF-
CP11	5074104102		CAP-MEF 0.1UFK 250V -SF-
CP12	5156100T50		CAP-EC6 10UFM 50V -RT-
CP13	5116104150		CAP-MC 0.1UFK 50V -RT-
CP14	5074103102		CAP-MEF 0.01UFK 250V -SF-
CP15	5101102132		CAP-CCB 1000PFK 1KV -RT-
CP16	5156479T50		CAP-EC6 4.7UFM 50V -RT-
CP17	5134104452		CAP-SCF 0.1UFZ 50V -RT-
CP3	5101102152		CAP-CCB 1000PFK 50V -RT-
CP4	5116102111		CAP-MC 0.001UFK 100V -RT-
CP5	5116102111		CAP-MC 0.001UFK 100V -RT-
CP6	5156100T50		CAP-EC6 10UFM 50V -RT-
CP7	5128331552		CAP-CCSL 330PFJ 50V -RT-
CP8	5116103111		CAP-MC 0.01UFK 100V -RT-
D10	4120146060	S	DIODE 1N4606 (SI) -AT-
D11	4120146060	S	DIODE 1N4606 (SI) -AT-
D12	4120146060	S	DIODE 1N4606 (SI) -AT-
D13	4120146060	S	DIODE 1N4606 (SI) -AT-
D14	4120146060	S	DIODE 1N4606 (SI) -AT-
D15	413010426C	S	DIODE BYV26C KINK FORMING -AT-
D16	413020426C	S	DIODE 2.3A/600V BYM26C -AT-
D17	41303031F6	S	DIODE 31DF6
D18	41303031F2	S	DIODE 3A/200V 31DF2
D19	41303030F2	S	DIODE 30DF2
D20	4120104001	S	DIODE 1N4001 -AT-
D21	4120104001	S	DIODE 1N4001 -AT-
D212	4120104002	S	DIODE 1N4002 -AT-
D213	4120141480	S	DIODE 1N4148 (SI) -AT-
D214	4130100218	S	DIODE RGP02-18E-5300 -AT-
D215	4130100218	S	DIODE RGP02-18E-5300 -AT-
D217	413010426C	S	DIODE BYV26C KINK FORMING -AT-
D22	41303030F2	S	DIODE 30DF2
D23	4120104001	S	DIODE 1N4001 -AT-
D24	413020426C	S	DIODE 2.3A/600V BYM26C -AT-
D28	413010010D	S	DIODE RGP10D-5302 -AT- 1A
D29	4120146060	S	DIODE 1N4606 (SI) -AT-
D301	413060032F	S	DIODE DTV32F-1500B TO-220
D303	4130400260	S	DIODE FMGG26S TO-220
D304	4120146060	S	DIODE 1N4606 (SI) -AT-
D308	413010010D	S	DIODE RGP10D-5302 -AT- 1A
D309	413010010D	S	DIODE RGP10D-5302 -AT- 1A
D310	4120141480	S	DIODE 1N4148 (SI) -AT-
D311	413010010J	S	DIODE RGP10J-5390 1A 600V -AT-
D312	413020120A	S	DIODE EGP-20A -AT-
D314	413010010D	S	DIODE RGP10D-5302 -AT- 1A
D315	4120141480	S	DIODE 1N4148 (SI) -AT-
D332	4130500200	S	DIODE CTP-G2 FR TO-220
D333	4120141480	S	DIODE 1N4148 (SI) -AT-
D350	413010010J	S	DIODE RGP10J-5390 1A 600V -AT-
D373	413010010D	S	DIODE RGP10D-5302 -AT- 1A
D3A0	4120104001	S	DIODE 1N4001 -AT-
D3A2	4120141480	S	DIODE 1N4148 (SI) -AT-
D3A3	4120141480	S	DIODE 1N4148 (SI) -AT-
D401	4120141480	S	DIODE 1N4148 (SI) -AT-
D5	413010426C	S	DIODE BYV26C KINK FORMING -AT-
D6	4120104001	S	DIODE 1N4001 -AT-
D7	413010426C	S	DIODE BYV26C KINK FORMING -AT-
D8	413010426E	S	DIODE BYV26E 1A/1000V SOD-57
D9	4120146060	S	DIODE 1N4606 (SI) -AT-
DP1	4120146060	S	DIODE 1N4606 (SI) -AT-
DP2	413015095C	S	DIODE BYV95C SOD-57
DP3	41303031F4	S	DIODE 3A/400V 35NS 31DF4 -AT-
DP4	4120146060	S	DIODE 1N4606 (SI) -AT-

DP6	4120146060	S	DIODE 1N4606 (SI) -AT-
F1	5268400052	S	FUSE 4A/250VAC
FB1	4322209046		FERRITE BEAD 2UH -AT-
FB2	4322209046		FERRITE BEAD 2UH -AT-
FB3	4322209046		FERRITE BEAD 2UH -AT-
FB4	4322209046		FERRITE BEAD 2UH -AT-
FB6	4322209046		FERRITE BEAD 2UH -AT-
FB7	4322209046		FERRITE BEAD 2UH -AT-
FBP1	4322309006		FERRITE BEAD 3UH -AT-
IC2	4159384200	S	IC UC3842A 8PIN
IC202	4159817200	S	IC TDA8172 7PIN
IC3	4159393000	S	IC LM 393 8PIN
IC302	4159358000	S	IC LM1358N 8PIN
IC306	41598444N0	S	IC TDA8444N 16PIN
IC307	41598444N0	S	IC TDA8444N 16PIN
IC308	4159188300	S	IC UPC1883CT 30 PIN
IC4	415943100A	S	IC TL431 REGULATOR TO-92 -RT-
IC5	4159781201	S	IC MCT7812CT TO-220AB
IC6	4159780501	S	IC 7805 REGULATOR 3PIN
ICP2	4159555000	S	IC NE555 8PIN
ICP3	415943100A	S	IC TL431 REGULATOR TO-92 -RT-
J92	4322309006		FERRITE BEAD 3UH -AT-
K1	4420412009		RELAY JW2aHN-DC12V
L1	4321120006		COIL PEAKING 12UH -AT-
L301	4325339003		COIL CHOKE 3.3MH -SF-
L302	4323529003		COIL CHOKE 5.2UH -SF-
L303	708S206301		COIL LINEARITY -SF-
L304	4325111403		CHOKE COIL 118UH (WINDING) -SF
L304	4325141003		COIL CHOKE 146UH -SF-
L305	4323171003		COIL CHOKE 173uH
L306	4321399006		COIL PEAKING 3.9UH -AT-
L307	4321399006		COIL PEAKING 3.9UH -AT-
L311	4321100006		COIL PEAKING 10UH -AT-
L3A0	4321100006		COIL PEAKING 10UH -AT-
L401	4321100006		COIL PEAKING 10UH -AT-
LP1	4320205003		COIL CHOKE 2MH -SF-
LP2	4322209046		FERRITE BEAD 2UH -AT-
LP3	4322209046		FERRITE BEAD 2UH -AT-
LP4	4322209046		FERRITE BEAD 2UH -AT-
P1	4490400207		CONN. 4P WAFER ROUND PIN
P2	4493000161		CONN. 30P SIMM SOCKET AL03000
P5	449020013D		CONN. 2P WAFER 2.5MM
P7	4490401104		CONN. 4P MH11041-H1
PH1	4159435002		POTO COUPLER X'STER 4N35 W=10
PTCR1	7021141400		PTCR DGC 2R14M
Q1	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q10	410030669A	S	TRS. 2SD669A TO-126
Q11	411030667C	S	TRS. 2SD667C TO-92M -RT-
Q2	4114510080	S	TRS. SCR MCR100-8 TO-92 -RT-
Q3	4114501006	S	TRS. MCR100-6 TO-92 -RT-
Q301	4100250480	S	TRS. 2SC5048 TO-3P
Q302	4105906300	S	TRS. IRF630 TO-220
Q304	4103200122	S	TRS. TIP122 TO-220
Q305	410010649A	S	TRS. 2SB649A(C) TO-126
Q307	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q308	4100108610	S	TRS. 2SB861
Q309	4116610010	S	TRS. RN1001 -RT-
Q310	4105906200	S	TRS. MOSFET IRF620 TO-220
Q312	4110007330	S	TRS. 2SA733 TO-92M -RT-
Q347	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q348	4116612030	S	TRS. RN1203 -RT-
Q350	411661001C	S	TRS. RN1001 -RT-
Q352	4100226880	S	TRS. 2SC2688 TO-126
Q353	410030669A	S	TRS. 2SD669A TO-126
Q354	411010647C	S	TRS. 2SB647C TO-92M -RT-
Q355	4100318970	S	TRS. 2SD1897 TO-220F
Q356	411030667C	S	TRS. 2SD667C TO-92M -RT-
Q357	411010647C	S	TRS. 2SB647C TO-92M -RT-
Q360	411452222L	S	TRS. FET VN2222LLRLRA -AT-
Q370	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q371	4110007330	S	TRS. 2SA733 TO-92M -RT-
Q374	411030667C	S	TRS. 2SD667C TO-92M -RT-
Q375	411010647C	S	TRS. 2SB647C TO-92M -RT-
Q376	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q4	4110105610	S	TRS. 2SB561 TO-92 -RT-
Q410	4100226880	S	TRS. 2SC2688 TO-126
Q420	411020945P	S	TRS. 2SC945P TO-92 -RT-
Q5	4100226880	S	TRS. 2SC2688 TO-126
Q6	4101515070	S	TRS. MOSFET 2SK1507 TO-220
Q8	411022120Y	S	TRS. 2SC2120Y TO-92 -RT-

QP1	411022120Y	S	TRS. 2SC2120Y TO-92 -RT-
QP2	411022120Y	S	TRS. 2SC2120Y TO-92 -RT-
QP3	4101808400	S	TRS. MOSFET YTA840 TO-220AB
QP4	4116610010	S	TRS. RN1001 -RT-
QP5	4116610010	S	TRS. RN1001 -RT-
QP6	4110105610	S	TRS. 2SB561 TO-92 -RT-
R1	4050256455		RES-CF 1/2W J 560K -AT-
R12	4171051256		RES-MOF 1W J 5.1K -AT-
R13	4050218455		RES-CF 1/2W J 180K -AT-
R14	4050218455		RES-CF 1/2W J 180K -AT-
R16	4050520155		RES-CF 1/4W J 200R -AT- SMALL
R17	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R19	4257048451		RES-PR MF 1/4W F 8.45K SMALL -
R20	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R202	4050211255		RES-CF 1/2W J 1.1K -AT-
R203	4171015956		RES-MOF 1W J 1.5R -AT-
R204	4257047501		RES-PR MF 1/4W F 7.5K AT SMALL
R206	4050524955		RES-CF 1/4W J 2.4R SMALL -AT-
R21	4050582255		RES-CF 1/4W J 8.2K -AT- SMALL
R22	4050515355		RES-CF 1/4W J 15K -AT- SMALL
R23	4050515355		RES-CF 1/4W J 15K -AT- SMALL
R230	4177320353	S	RES-MOF 3W J 20K -SF- SMALL
R232	4050527455		RES-CF 1/4W J 270K SMALL -AT-
R24	4050547155		RES-CF 1/4W J 470R SMALL -AT-
R243	4050210955		RES-CF 1/2W J 1R -AT-
R244	4050210955		RES-CF 1/2W J 1R -AT-
R245	4050515355		RES-CF 1/4W J 15K -AT- SMALL
R25	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R26	4050551255		RES-CF 1/4W J 5.1K -AT- SMALL
R27	4050520355		RES-CF 1/4W J 20K -AT- SMALL
R28	4050551255		RES-CF 1/4W J 5.1K -AT- SMALL
R29	4050547055		RES-CF 1/4W J 47R -AT- SMALL
R3	7105010038	S	THMER. +-15% 10R 5A 15¢ W/KINK
R30	4050575155		RES-CF 1/4W J 750R SMALL -AT-
R301	409501415F	S	RES-WW 5W J 139R RSS
R302	4172018153	S	RES-MOF 2W J 180R -SF-
R303	4050522355		RES-CF 1/4W J 22K SMALL -AT-
R304	4172015953	S	RES-MOF 2W J 1.5R -SF-
R305	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R306	4172015953	S	RES-MOF 2W J 1.5R -SF-
R307	4171012158		RES-MOF 1W J 120R
R308	4172036053	S	RES-MOF 2W J 36R -SF-
R309	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R31	4050533055		RES-CF 1/4W J 33R -AT- SMALL
R310	4050568255		RES-CF 1/4W J 6.8K SMALL -AT-
R311	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R312	4050518455		RES-CF 1/4W J 180K SMALL -AT-
R313	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R314	4050562355		RES-CF 1/4W J 62K SMALL -AT-
R315	4050575355		RES-CF 1/4W J 75K SMALL -AT-
R316	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R317	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R318	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R319	4050591255		RES-CF 1/4W J 9.1K SMALL -AT-
R32	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R320	4177320353	S	RES-MOF 3W J 20K -SF- SMALL
R321	4050147055		RES-CF 1/2W J 47R -AT- SMALL
R322	409501805F	S	RES-WW 5W J 18R RSS-2
R324	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R325	4050575155		RES-CF 1/4W J 750R SMALL -AT-
R326	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R329	4172075853	S	RES-MOF 2W J 0.75R -SF-
R33	4050551255		RES-CF 1/4W J 5.1K -AT- SMALL
R333	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R34	4050527055		RES-CF 1/4W J 27R SMALL -AT-
R340	4172015955	S	RES-MOF 2W J 1.5R -18-
R344	4172015953	S	RES-MOF 2W J 1.5R -SF-
R348	4050522455		RES-CF 1/4W J 220K SMALL -AT-
R349	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R35	4050518055		RES-CF 1/4W J 18R -AT- SMALL
R350	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R351	4050247355		RES-CF 1/2W J 47K -AT-
R354	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R355	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R356	4180310255	S	RES-FUSIBLE 1/3W J 1K -AT-
R358	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R359	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R36	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
R360	4050518355		RES-CF 1/4W J 18K SMALL -AT-
R362	4050539355		RES-CF 1/4W J 39K SMALL -AT-

R363	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
R364	4050568155		RES-CF 1/4W J 680R SMALL -AT-
R365	4172033353	S	RES-MOF 2W J 33K -SF-
R366	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R367	4257043320		RES-PR MF 1/4W F 332R SMALL -A
R369	4050522355		RES-CF 1/4W J 22K SMALL -AT-
R37	4050547155		RES-CF 1/4W J 470R SMALL -AT-
R371	4050513455		RES-CF 1/4W J 130K SMALL -AT-
R372	4050512455		RES-CF 1/4W J 120K -AT- SMALL
R373	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R374	4172012153	S	RES-MOF 2W J 120R -SF-
R375	4257042101		RES-PR MF 1/4W F 2.1K SMALL -A
R376	4172036053	S	RES-MOF 2W J 36R -SF-
R377	4050543355		RES-CF 1/4W J 43K SMALL -AT-
R378	4257041001		RES-PR MF 1/4W F 1K AT SMALL
R379	4257044221		RES-PR MF 1/4W F 4.22K SMALL -
R38	4177224353	S	RES-MOF 2W J 24K SMALL -SF-
R380	4257041001		RES-PR MF 1/4W F 1K AT SMALL
R383	4257044221		RES-PR MF 1/4W F 4.22K SMALL -
R385	4257041002		RES-PR MF 1/4W F 10K AT SMALL
R39	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R398	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R399	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R40	409502025E	S	RES-WW 5W J 2K SQY-A
R403	4257044751		RES-PR MF 1/4W F 4.75K AT SMAL
R404	4257041003		RES-PR MF 1/4W F 100K AT SMALL
R405	4257041003		RES-PR MF 1/4W F 100K AT SMALL
R41	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R410	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R411	4257049312		RES-PR MF 1/4W F 93.1K AT SMAL
R414	4050510455		RES-CF 1/4W J 100K -AT- SMALL
R417	4050539255		RES-CF 1/4W J 3.9K -AT- SMALL
R42	4050513255		RES-CF 1/4W J 1.3K -AT- SMALL
R420	4172010053	S	RES-MOF 2W J 10R -SF-
R421	4050515455		RES-CF 1/4W J 150K SMALL -AT-
R422	4050220455		RES-CF 1/2W J 200K -AT-
R423	4050520455		RES-CF 1/4W J 200K -AT- SMALL
R424	4050520355		RES-CF 1/4W J 20K -AT- SMALL
R425	4050575255		RES-CF 1/4W J 7.5K -AT- SMALL
R426	4050568455		RES-CF 1/4W J 680K SMALL -AT-
R427	4050515355		RES-CF 1/4W J 15K -AT- SMALL
R428	4050551255		RES-CF 1/4W J 5.1K -AT- SMALL
R429	4050562455		RES-CF 1/4W J 620K SMALL -AT-
R43	4050556055		RES-CF 1/4W J 56R SMALL -AT-
R430	4050522355		RES-CF 1/4W J 22K SMALL -AT-
R431	4050520155		RES-CF 1/4W J 200R -AT- SMALL
R44	4050533055		RES-CF 1/4W J 33R -AT- SMALL
R441	4180320255	S	RES-FUSIBLE 0.33W J 2K -AT-
R442	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R443	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R45	4072033855	S	RES-MF 2W J 0.33R -AT-
R450	4050591255		RES-CF 1/4W J 9.1K SMALL -AT-
R451	4050510455		RES-CF 1/4W J 100K -AT- SMALL
R452	4050515455		RES-CF 1/4W J 150K SMALL -AT-
R453	4050510455		RES-CF 1/4W J 100K -AT- SMALL
R454	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R455	4050575355		RES-CF 1/4W J 75K SMALL -AT-
R458	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R46	4050222155		RES-CF 1/2W J 220R -AT-
R460	4120141480	S	DIODE 1N4148 (SI) -AT-
R461	4050527055		RES-CF 1/4W J 27R SMALL -AT-
R47	4171075356		RES-MOF 1W J 75K -AT-
R470	4257041602		RES-PR MF 1/4W F 16K AT SMALL
R471	4257041002		RES-PR MF 1/4W F 10K AT SMALL
R472	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R475	4257041151		RES-PR MF 1/4W F 1.15K SMALL -
R476	4257041002		RES-PR MF 1/4W F 10K AT SMALL
R477	4050533255		RES-CF 1/4W J 3.3K -AT- SMALL
R478	4257042212		RES-PR MF 1/4W F 22.1K SMALL -
R479	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
R48	4172010053	S	RES-MOF 2W J 10R -SF-
R480	4257049532		RES-PR MF 1/4W F 95.3K AT SMAL
R481	4257041103		RES-PR MF 1/4W F 110K AT SMALL
R483	4257041132		RES-PR MF 1/4W F 11.3K SMALL -
R485	4257047502		RES-PR MF 1/4W F 75K SMALL -AT
R486	4257043652		RES-PR MF 1/4W F 36.5K AT SMAL
R487	4257041132		RES-PR MF 1/4W F 11.3K SMALL -
R488	4257041003		RES-PR MF 1/4W F 100K AT SMALL
R489	4257041003		RES-PR MF 1/4W F 100K AT SMALL
R49	4257045621		RES-PR MF 1/4W F 5.62K SMALL -

R491	4257043652		RES-PR MF 1/4W F 36.5K AT SMAL
R492	4050515355		RES-CF 1/4W J 15K -AT- SMALL
R494	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R495	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R496	4257043652		RES-PR MF 1/4W F 36.5K AT SMAL
R497	4257041502		RES-PR MF 1/4W F 15K AT SMALL
R498	4257046041		RES-PR MF 1/4W F 6.04K SMALL -
R499	4257041502		RES-PR MF 1/4W F 15K AT SMALL
R4A0	4257042741		RES-PR MF 1/4W F 2.74K SMALL -
R4A1	4257041302		RES-PR MF 1/4W F 13K AT SMALL
R4A2	4050520255		RES-CF 1/4W J 2K -AT- SMALL
R4A3	4050151055		RES-CF 1/2W J 51R -AT- SMALL
R4A4	4050512255		RES-CF 1/4W J 1.2K -AT- SMALL
R4A5	4257042211		RES-PR MF 1/4W F 2.21K SMALL -
R4A6	4257042211		RES-PR MF 1/4W F 2.21K SMALL -
R4A7	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R4B0	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R4B7	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R4C0	4257041001		RES-PR MF 1/4W F 1K AT SMALL
R4C3	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R4C4	4257042151		RES-PR MF 1/4W F 2.15K AT SMAL
R4C5	4050575355		RES-CF 1/4W J 75K SMALL -AT-
R4D9	4050510455		RES-CF 1/4W J 100K -AT- SMALL
R5	4071033855		RES-MF 1W J 0.33R -AT-
R50	4257041001		RES-PR MF 1/4W F 1K AT SMALL
R51	4050222355		RES-CF 1/2W J 22K -AT-
R52	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R53	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R54	4050591355		RES-CF 1/4W J 91K SMALL -AT-
R55	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R56	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R57	4050527455		RES-CF 1/4W J 270K SMALL -AT-
R59	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R6	4095010351	S	RES-WW 5W J 10K SQM-SF
R60	4171015953		RES-MOF 1W J 1.5R -SF-
R61	4050222155		RES-CF 1/2W J 220R -AT-
R62	4050520255		RES-CF 1/4W J 2K -AT- SMALL
R64	4050547155		RES-CF 1/4W J 470R SMALL -AT-
R65	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R66	4050533055		RES-CF 1/4W J 33R -AT- SMALL
R68	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R69	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R7	4171051256		RES-MOF 1W J 5.1K -AT-
R71	4171010053		RES-MOF 1W J 10R -SF-
R74	4050256455		RES-CF 1/2W J 560K -AT-
R75	4050575255		RES-CF 1/4W J 7.5K -AT- SMALL
R76	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R8	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
RL301	4420412002		RELAY 12V
RN301	4082051045		RES-NET 100K 5PIN COMMON
RN302	4082051045		RES-NET 100K 5PIN COMMON
RP10	4050568255		RES-CF 1/4W J 6.8K SMALL -AT-
RP11	4050510255		RES-CF 1/4W J 1K -AT- SMALL
RP12	4050510355		RES-CF 1/4W J 10K -AT- SMALL
RP13	4050510655	S	RES-CF 1/4W J 10M SMALL -AT-
RP14	4257047502		RES-PR MF 1/4W F 75K SMALL -AT
RP15	4050522055		RES-CF 1/4W J 22R SMALL -AT-
RP16	4050518255		RES-CF 1/4W J 1.8K -AT- SMALL
RP17	4050510355		RES-CF 1/4W J 10K -AT- SMALL
RP18	4050510355		RES-CF 1/4W J 10K -AT- SMALL
RP21	4050510255		RES-CF 1/4W J 1K -AT- SMALL
RP22	4050510255		RES-CF 1/4W J 1K -AT- SMALL
RP23	4172020253	S	RES-MOF 2W J 2K -SF-
RP24	4050522455		RES-CF 1/4W J 220K SMALL -AT-
RP4	4050510155		RES-CF 1/4W J 100R -AT- SMALL
RP5	4050510255		RES-CF 1/4W J 1K -AT- SMALL
RP6	4050510255		RES-CF 1/4W J 1K -AT- SMALL
RP7	4257041802		RES-PR MF 1/4W F 18K AT SMALL
RP8	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
RP9	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
SG1	5106122304		SPARK GAP 1.2KV AG-15 P:5.0MM
SK2	4490200207		CONN. 2P WAFER ROUND PIN 10MM
T1	7066330253		CHOKE COMMON MODE
T3	7050107F10	S	POWER TRANSFORMER
T301	7050207F10	S	DRIVER TRANSFORMER
T302	7050311700	S	F.B.T.
T401	7050519000	S	FOCUS TRANSFORMER
TP1	705025423L	S	DRIVER TRANSFORMER
VR1	5225150210		POT(CERMET) 0.3W 5K 6¢ LAY-DOW
VR301	5225150310		POT(CERMET) 0.3W 50K 6¢ LAY-DO

VR302	5225150410		POT(CERMET) 0.3W 500K 6¢ LAY-D	
VR303	5221120200		POT(CERMET) 0.3W 2K 6¢ STAND-O	
VRP1	5225110410		POT(CERMET) 0.3W 100K 6¢ LAY-D	
ZD1	4120502402	S	DIODE ZENER 1/2W 24V HZ24-2 -A	
ZD2	4120500152	S	DIODE ZENER 14.5-15.1V -AT-	
ZD3	41205013BU	S	DIODE ZENER MTZJ13B -AT-	
ZD301	4120500152	S	DIODE ZENER 14.5-15.1V -AT-	
ZD305	412055279U	S	Z-D 1N52793 0.5W 180V +-5% DO-	
ZD310	41205091CU	S	DIODE ZENER MTZJ9.1C -AT-	
ZD311	41205051AU	S	DIODE ZENER MTZJ5.1A -AT-	
ZD312	41205091CU	S	DIODE ZENER MTZJ9.1C -AT-	
ZD314	4120500152	S	DIODE ZENER 14.5-15.1V -AT-	
ZD4	41205091CU	S	DIODE ZENER MTZJ9.1C -AT-	
ZDP1	4120500152	S	DIODE ZENER 14.5-15.1V -AT-	

******		S	NECK PCB ASS'Y	
	2009191530		HEAT SINK	FOR IC501
	3011100030		NUT ISO HEX M3 Z1NC	FOR IC501
	4141112801		P.C.B. VIDEO 196X123mm	
	5541025095		CABLE TIE 2.5X90	FOR NECK SHIELD
	8026113008		SCREW B/HD M3X8 TAPPING "B"	FOR IC501 HEAT SINK & VIDEO PCB
	8504113010		SCREW BIND(+) M3X10 MACH W/DIS	FOR IC501
	C459430051		GND WIRE ASS'Y	FOR A
BF501	3340230165		BEAD PIN 16.5X2.3¢	
C500	515X100T01		CAP-ECX 100UFM 100V -RT-	
C501	5156100T50		CAP-EC6 100FM 50V -RT-	
C502	5156100T50		CAP-EC6 100FM 50V -RT-	
C503	5156100T50		CAP-EC6 100FM 50V -RT-	
C504	5156109T50		CAP-EC6 1UFM 50V -RT-	
C505	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C506	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C507	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C508	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C509	5156101T16		CAP-EC6 100UFM 16V -RT-	
C510	515X109T50		CAP-ECX 1UFM 50V -RT-	
C511	515X100T50		CAP-ECX 10UFM 50V -RT-	
C512	5075104501		CAP-MEF 0.1UFJ 100V CF	
C513	5075104501		CAP-MEF 0.1UFJ 100V CF	
C514	5156109T50		CAP-EC6 1UFM 50V -RT-	
C515	7140104214		CAP-X7R 0.1UFM 100V -RT-	
C516	5156102S16		CAP-EC6 1000UFM 16V -SF-	
C517	5121470552		CAP-CCCH 47PFJ 50V -RT-	
C518	5074103102		CAP-MEF 0.01UFK 250V -SF-	
C519	515X470S01		CAP-ECX 47UFM 100V -SF-	
C520	5156100T50		CAP-EC6 10UFM 50V -RT-	
C521	5121470552		CAP-CCCH 47PFJ 50V -RT-	
C522	5121470552		CAP-CCCH 47PFJ 50V -RT-	
C523	5075104501		CAP-MEF 0.1UFJ 100V CF	
C524	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C526	5101102152		CAP-CCB 1000PFK 50V -RT-	
C527	5103103430		CAP-CCE 0.01UFM 1KV	
C528	5156100T50		CAP-EC6 10UFM 50V -RT-	
C529	5104103463		CAP-CCF 0.01UFZ 1.5KV -SF-	
C530	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C531	5121101552		CAP-CCCH 100PFJ 50V -RT-	
C532	7140104214		CAP-X7R 0.1UFM 100V -RT-	
C533	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C534	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C535	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C536	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C537	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C538	515X109T50		CAP-ECX 1UFM 50V -RT-	
C539	5156109T01		CAP-EC6 1UFM 100V -RT-	
C540	5156109T01		CAP-EC6 1UFM 100V -RT-	
C541	5156109T01		CAP-EC6 1UFM 100V -RT-	
C542	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C543	5074104102		CAP-MEF 0.1UFK 250V -SF-	
C544	7140104214		CAP-X7R 0.1UFM 100V -RT-	
C545	5101102152		CAP-CCB 1000PFK 50V -RT-	
C546	5116222550		CAP-MC 0.0022UFJ 50V -RT-	
C547	5121151552		CAP-CCCH 150PFJ 50V -RT-	
C548	5128471552		CAP-CCSL 470PFJ 50V -RT-	
C550	5156109T50		CAP-EC6 1UFM 50V -RT-	
C551	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C552	5101222152		CAP-CCB 2200PFK 50V -RT-	
C553	7142104254		CAP-Z5U 0.1UFM 50V -RT-	
C554	5134104452		CAP-SCF 0.1UFZ 50V -RT-	
C570	5156100T50		CAP-EC6 10UFM 50V -RT-	

C571	5121101552		CAP-CCCH 100PFJ 50V -RT-
C573	5134104452		CAP-SCF 0.1UFZ 50V -RT-
C589	5156100T50		CAP-EC6 10UFM 50V -RT-
CRT501	4570307H10		CRT SOCKET 2SDS08S
D502	4120141480	S	DIODE 1N4148 (SI) -AT-
D503	4120141480	S	DIODE 1N4148 (SI) -AT-
D504	4120141480	S	DIODE 1N4148 (SI) -AT-
D505	4120141480	S	DIODE 1N4148 (SI) -AT-
D506	4120141480	S	DIODE 1N4148 (SI) -AT-
D507	4120141480	S	DIODE 1N4148 (SI) -AT-
D510	413258020U	S	DIODE BAV20 DO-35 -AT-
D511	413258020U	S	DIODE BAV20 DO-35 -AT-
D512	413258020U	S	DIODE BAV20 DO-35 -AT-
D513	4120141480	S	DIODE 1N4148 (SI) -AT-
D514	4120141480	S	DIODE 1N4148 (SI) -AT-
D515	4120141480	S	DIODE 1N4148 (SI) -AT-
D516	413258020U	S	DIODE BAV20 DO-35 -AT-
D517	413258020U	S	DIODE BAV20 DO-35 -AT-
D518	413258020U	S	DIODE BAV20 DO-35 -AT-
D519	4120141480	S	DIODE 1N4148 (SI) -AT-
D520	4120141480	S	DIODE 1N4148 (SI) -AT-
D521	415943100A	S	IC TL431 REGULATOR TO-92 -RT-
D522	413258020U	S	DIODE BAV20 DO-35 -AT-
D523	413258020U	S	DIODE BAV20 DO-35 -AT-
D524	413258020U	S	DIODE BAV20 DO-35 -AT-
D525	413010426C	S	DIODE BYV26C KINK FORMING -AT-
D526	4120141480	S	DIODE 1N4148 (SI) -AT-
D527	4120141480	S	DIODE 1N4148 (SI) -AT-
D528	4120141480	S	DIODE 1N4148 (SI) -AT-
D529	4120141480	S	DIODE 1N4148 (SI) -AT-
D530	4120141480	S	DIODE 1N4148 (SI) -AT-
D531	4120141480	S	DIODE 1N4148 (SI) -AT-
FB501	4322209046		FERRITE BEAD 2UH -AT-
FB502	4322309006		FERRITE BEAD 3UH -AT-
FB503	4322309006		FERRITE BEAD 3UH -AT-
FB504	4322309004		FERRITE BEAD 3uH
FB505	4322209046		FERRITE BEAD 2UH -AT-
FB510	4322209046		FERRITE BEAD 2UH -AT-
FB512	4322209046		FERRITE BEAD 2UH -AT-
FB513	4322209046		FERRITE BEAD 2UH -AT-
IC501	4159241900	S	IC LM2419 11 PIN
IC502	4159942010	S	IC STV9420-4 16PIN
IC503	4159120700	S	IC LM1207N 28PIN
IC504	4159393000	S	IC LM 393 8PIN
IC505	41598444N0	S	IC TDA8444N 16PIN
L501	432A338006		COIL PEAKING 0.33uH SMALL -AT-
L502	432A338006		COIL PEAKING 0.33uH SMALL -AT-
L503	432A338006		COIL PEAKING 0.33uH SMALL -AT-
P501	4491200300		BASE 12P 2.54MM SXB-XH-A
Q500	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q501	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q502	4110219210	S	TRS. 2SC1921 TO-92M -RT-
Q503	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q504	4110219210	S	TRS. 2SC1921 TO-92M -RT-
Q505	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q506	4110219210	S	TRS. 2SC1921 TO-92M -RT-
Q507	411001376A	S	TRS. 2SA1376A TO-92 -RT-
Q508	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q509	411030667C	S	TRS. 2SD667C TO-92M -RT-
Q510	4111139040	S	TRS. 2N3904 TO-92 -RT-
Q511	4110007330	S	TRS. 2SA733 TO-92M -RT-
Q512	4110007330	S	TRS. 2SA733 TO-92M -RT-
Q513	4110007330	S	TRS. 2SA733 TO-92M -RT-
Q515	4111139040	S	TRS. 2N3904 TO-92 -RT-
R501	4257041479		RES-PR MF 1/4W F 14.7R SMALL -
R502	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R503	4257046049		RES-PR MF 1/4W F 60.4R SMALL -
R504	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R505	4257047509		RES-PR MF 1/4W F 75R AT SMALL
R506	4257047509		RES-PR MF 1/4W F 75R AT SMALL
R507	4257042209		RES-PR MF 1/4W F 22R SMALL -AT
R508	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R509	4050530455		RES-CF 1/4W J 300K SMALL -AT-
R50A	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R50C	4050518555	S	RES-CF 1/4W J 1.8M SMALL -AT-
R510	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R511	4257041003		RES-PR MF 1/4W F 100K AT SMALL
R514	4050533055		RES-CF 1/4W J 33R -AT- SMALL
R515	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
R518	4050510555	S	RES-CF 1/4W J 1N -AT- SMALL

R519	4050547355		RES-CF 1/4W J 47K -AT- SMALL
R520	4050539355		RES-CF 1/4W J 39K SMALL -AT-
R522	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R523	4257042321		RES-PR MF 1/4W F 2.32K AT SMAL
R524	4050520155		RES-CF 1/4W J 200R -AT- SMALL
R525	4050539155		RES-CF 1/4W J 390R -AT- SMALL
R526	4050520155		RES-CF 1/4W J 200R -AT- SMALL
R527	4050539155		RES-CF 1/4W J 390R -AT- SMALL
R528	4050520155		RES-CF 1/4W J 200R -AT- SMALL
R529	4050539155		RES-CF 1/4W J 390R -AT- SMALL
R530	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R531	4050547355		RES-CF 1/4W J 47K -AT- SMALL
R532	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R533	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R534	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R535	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R537	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R538	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R539	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R540	4050510555	S	RES-CF 1/4W J 1M -AT- SMALL
R541	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R543	4050520255		RES-CF 1/4W J 2K -AT- SMALL
R544	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R545	4050582155		RES-CF 1/4W J 820R -AT- SMALL
R546	4050527255		RES-CF 1/4W J 2.7K -AT- SMALL
R547	4050522455		RES-CF 1/4W J 220K SMALL -AT-
R548	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R549	4171022256		RES-MOF 1W J 2.2K -AT-
R550	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R551	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R552	4050547255		RES-CF 1/4W J 4.7K -AT- SMALL
R553	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R554	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R555	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R556	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R557	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R558	4050510355		RES-CF 1/4W J 10K -AT- SMALL
R559	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R560	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R561	4060222115		RES-CC 1/2W K 220R -AT-
R562	4060222115		RES-CC 1/2W K 220R -AT-
R563	4060222115		RES-CC 1/2W K 220R -AT-
R564	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R565	4060210115		RES-CC 1/2W K 100R -AT-
R566	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R568	4050582155		RES-CF 1/4W J 820R -AT- SMALL
R570	4050515155		RES-CF 1/4W J 150R SMALL -AT-
R572	4050510255		RES-CF 1/4W J 1K -AT- SMALL
R573	4050522455		RES-CF 1/4W J 220K SMALL -AT-
R574	4050539255		RES-CF 1/4W J 3.9K -AT- SMALL
R575	4060251315		RES-CC 1/2W K 51K -AT-
R576	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R579	4050515255		RES-CF 1/4W J 1.5K SMALL -AT-
R580	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R581	4050162155		RES-CF 1/2W J 620R SMALL -AT-
R582	4050162155		RES-CF 1/2W J 620R SMALL -AT-
R583	4050162155		RES-CF 1/2W J 620R SMALL -AT-
R584	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R585	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R586	4050512355		RES-CF 1/4W J 12K -AT- SMALL
R587	4050522255		RES-CF 1/4W J 2.2K -AT- SMALL
R588	4050510155		RES-CF 1/4W J 100R -AT- SMALL
R591	4050547355		RES-CF 1/4W J 47K -AT- SMALL
R592	4050139355		RES-CF 1/2W J 39K SMALL -AT-
SG2	5106152303		SPARK GAP 1.5KV AG-20 P:6.4MM
X501	7150120000		X'TAL 12MHZ
ZD506	41205051AU	S	DIODE ZENER MTZJ5.1A -AT-
ZD507	41205051AU	S	DIODE ZENER MTZJ5.1A -AT-
ZD508	41205036AU	S	DIODE ZENER MTZJ3.6A -AT-

******	**********		CHASSIS PARTS ASS'Y	
	1010194310	S	FOOT	
	1013094180		REVLT ¢3	FOR LOGIC BOARD & FIXED PLATE X1
	1015094610		DOOR LOCK 4U66	
	1301117F16	S	BEZEL	
	1302117F10	S	#BUCKET	
	1321017F10		CONTROL PANEL	
	1340017F10	S	DOOR	

	1360C14E10		#CAP	
	1376017F10		BEZEL BRACKET	
	1604017F10		TILT BAL.	
	1605017F10	S	BASE	
	1A100C7F10		RETAINER	
	2001097G21		LOGIC FIXED PLATE	FOR FBT COVER & LOGIC PCB
	2002094383		WASHER SPRING WAVE	FOR BASE & RETAINER
	2013097F10		CHASSIS REAR A	
	2016097F10		NECK SHIELD (B)	
	2017094030		GROUND CLAMP	
	3011100040		NUT M4 ZN3C	FOR BASE & RETAINER
	3060040060		RIVET NYLON 4.0X6.0	FOR FIXED PLATE & FBT COVER X1
	3111401210		WASHER FLAT #80 D=12 T=1 ZINC	FOR BASE & RETAINER
	3602300005		NYLON WASHER (U-5)	FOR CONTROL PCB
	36523BS19P		SPACER SUPPORT CBS-19P	FOR MAIN PCB
	366230SR4S		NYLON RIVET SR-4S	FOR BEZEL & U BKT
	4410302013	S	POWER SWITCH R13-73A-2 SPST	
	463110C01N		AC POWER CORD PC VDE GRY 5FT W	
	553C20C102		CORD CRAMPER TH-A	FOR NECK SHIELD
	553C311005		SUPPORT PCB	
	5541025095		CABLE TIE 2.5X90	
	5541025095		CABLE TIE 2.5X90	
	5541025095		CABLE TIE 2.5X90	FOR 1007 #22 GRY 2060MM
	5541025160		CABLE TIE-BINDING 2.5X160	
	7010027717	S	CRT M41KVZ180X11 (UQ)	HITACHI CRT
	7020177F10		DEGAUSSING COIL 120 TURN	
	7067F20122	S	LINE FILTER IX-0342-P	
	8004114025		SCREW BIND (+) ZINC M4X25	FOR BASE & RETAINER
	8024113008		SCREW STEEL TRI "B" TAPPING FL	FOR AC LINE FILTER
	8059113522		SCREW BIND(+) B-2 M3.5X22 TAPP	FOR BEZEL & BUCKET X4
	8121114008		SCREW CAP BID(+) M4X8 TAPPING"	FOR I/O CABLE CLIP
	8127113006		SCREW PAN(+)/HD CAP TAPPING M3	FOR GND WIRE
	8418113008		SCREW B/HD M3X8 TAPPING "P"	FOR CONTROL PCB & PANEL A
	9004095G21		SPACER	FOR NECK SHIELD & NECK PCB ASS'Y
	9005297F10	S	FUNCTION KEY	
	9008097F10		DECO PLATE (I/O CABLE)	
	9010097G10		UL SPONGE 80X70X80	FOR NECK SHIELD B
	9012697F16		#MANUAL & GREEN SOFTWARE	
	C001137G22		CRT BRAID WIRE ASS'Y	
	C367F10030		RUBBER WASHER & SCREW ASS'Y	
	C4597F1011		GND WIRE ASS'Y	FOR VIDEO SHIELD TO BACK METAL
	C4597F1021		GND WIRE ASS'Y 100MM	FOR VIDEO SHIELD TO BACK METAL
	C4597G2120		GND WIRE ASS'Y	FOR CONTROL PCB
	C460670110		TILT RING WIRE ASS'Y 270mm	FOR HITACHI CRT
	C7107F1010	S	I/O CABLE ASS'Y	

******		S	CONTROL PCB ASS'Y	
	4141113000		P.C.B. CONTROL	
	C488141010		CONN. 14P & WIRE ASS'Y	
C791	5156479T50		CAP-EC6 4.7UFM 50V -RT-	
LED701	4120600247	S	LED O/G CHIP 4PIN	
R7A1	4050522155		RES-CF 1/4W J 220R SMALL -AT-	
R7A2	4050522155		RES-CF 1/4W J 220R SMALL -AT-	
R7A3	4050510355		RES-CF 1/4W J 10K -AT- SMALL	
SW701	4410507F10		SWITCH POLYDOME 1KEY	
TR711	4110007330	S	TRS. 2SA733 TO-92M -RT-	
TR712	4110007330	S	TRS. 2SA733 TO-92M -RT-	

******		S	LOGIC PCB ASS'Y	
	4141111305		#P.C.B. LOGIC	
	415AG03000		FIRMWARE VERSION: G030	
C701	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C702	515X100T25		CAP-ECX 10UFM 25V -RT-	
C703	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C704	5156109T50		CAP-EC6 1UFM 50V -RT-	
C705	7183102556		CAP-COG 1000PFJ 50V CHIP 0805	
C706	515X100T25		CAP-ECX 10UFM 25V -RT-	
C707	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C708	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C709	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C710	515X100T25		CAP-ECX 10UFM 25V -RT-	
C711	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	
C712	7183220556		CAP-COG 22PFJ 50V CHIP 0805	
C713	7183220556		CAP-COG 22PFJ 50V CHIP 0805	
C715	7183102556		CAP-COG 1000PFJ 50V CHIP 0805	
C717	7146104456		CAP-Y5V 0.1UFZ 50V CHIP 0805	

C719	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
C721	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
C722	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
C723	7144223156	CAP-X7R 0.022UFK 50V CHIP 0805
C725	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
C727	7183101556	CAP-COG 100PFJ 50V CHIP 0805
C728	7183102556	CAP-COG 1000PFJ 50V CHIP 0805
C730	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
C780	7146104456	CAP-Y5V 0.1UFZ 50V CHIP 0805
D701	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D703	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D704	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D705	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D707	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D708	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D709	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D710	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D711	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D712	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D713	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D714	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D715	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D717	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D720	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D722	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
D723	412014148T	DIODE 1N4148 (BAS32L) MLF SMD
IC701	415980542T	IC 80C54 PLCC 44PIN G030(2EF4)
IC702	415924L16T	IC 24LC16BSN (SOIC) 8PIN
IC703	4159242107	IC 24LC21 (SOIC) 8PIN
IC704	415707486T	IC 74HCT86 SMD CHIP 14PIN
IC705	415507474T	IC 74HC74 SMD CHIP 14PIN
IC706	415A07400T	IC 74AC00 SMD 14PIN
IC707	415A07414T	IC 74AC14 SMD 14PIN
IC708	415908200T	IC TL082-CD SMD 8PIN
P701	4491425420	CONN. 14P
R701	4010110252	RES-CHIP 1/10W J 1K 0805
R702	4010110252	RES-CHIP 1/10W J 1K 0805
R703	4010124452	RES-CHIP 1/10W J 240K 0805 -AT
R704	4010133252	RES-CHIP 1/10W J 3.3K
R705	4010113452	RES-CHIP 1/10W J 130K 0805 -AT
R706	4010133252	RES-CHIP 1/10W J 3.3K
R707	4010122152	RES-CHIP 1/10W J 220R 0805
R708	4010122152	RES-CHIP 1/10W J 220R 0805
R709	4010122152	RES-CHIP 1/10W J 220R 0805
R710	4010122152	RES-CHIP 1/10W J 220R 0805
R712	4010122152	RES-CHIP 1/10W J 220R 0805
R713	4010122152	RES-CHIP 1/10W J 220R 0805
R715	4010122352	RES-CHIP 1/10W J 22K 0805 -AT-
R716	4010122152	RES-CHIP 1/10W J 220R 0805
R717	4010122352	RES-CHIP 1/10W J 22K 0805 -AT-
R718	4010110352	RES-CHIP 1/10W J 10K 0805
R719	4010147252	RES-CHIP 1/10W J 4.7K 0805
R720	4010122252	RES-CHIP 1/10W J 2.2K 0805
R722	4010110352	RES-CHIP 1/10W J 10K 0805
R723	4010110352	RES-CHIP 1/10W J 10K 0805
R724	4010110352	RES-CHIP 1/10W J 10K 0805
R725	4010130452	RES-CHIP 1/10W J 300K 0805 -AT
R726	4010112452	RES-CHIP 1/10W J 120K 0805 -AT
R727	4010112452	RES-CHIP 1/10W J 120K 0805 -AT
R728	4010122152	RES-CHIP 1/10W J 220R 0805
R729	4010110352	RES-CHIP 1/10W J 10K 0805
R730	4010122152	RES-CHIP 1/10W J 220R 0805
R731	4010147252	RES-CHIP 1/10W J 4.7K 0805
R732	4010122152	RES-CHIP 1/10W J 220R 0805
R733	4010147252	RES-CHIP 1/10W J 4.7K 0805
R734	4010110352	RES-CHIP 1/10W J 10K 0805
R735	4010133252	RES-CHIP 1/10W J 3.3K
R736	4010122152	RES-CHIP 1/10W J 220R 0805
R737	4010122152	RES-CHIP 1/10W J 220R 0805
R738	4010122152	RES-CHIP 1/10W J 220R 0805
R739	4010122152	RES-CHIP 1/10W J 220R 0805
R740	4010122152	RES-CHIP 1/10W J 220R 0805
R741	4010122152	RES-CHIP 1/10W J 220R 0805
R742	4010122152	RES-CHIP 1/10W J 220R 0805
R744	4010110152	RES-CHIP 1/10W J 100R 0805
R745	4010110152	RES-CHIP 1/10W J 100R 0805
R746	4010151252	RES-CHIP 1/10W J 5.1K 0805
R747	4010110452	RES-CHIP 1/10W J 100K 0805
R748	4010118252	RES-CHIP 1/10W J 1.8K 0805
R749	4010122252	RES-CHIP 1/10W J 2.2K 0805

R750	4010110352		RES-CHIP 1/10W J 10K 0805
R751	4010110352		RES-CHIP 1/10W J 10K 0805
R752	4010175352		RES-CHIP 1/10W J 75K 0805 -AT-
R753	4010110252		RES-CHIP 1/10W J 1K 0805
R757	4010110252		RES-CHIP 1/10W J 1K 0805
R758	4010143052		RES-CHIP 1/10W J 43R 0805
R759	4010122152		RES-CHIP 1/10W J 220R 0805
R760	4010168252		RES-CHIP 1/10W J 6.8K 0805
R761	4010122352		RES-CHIP 1/10W J 22K 0805 -AT-
R762	4010110152		RES-CHIP 1/10W J 100R 0805
R764	4010122152		RES-CHIP 1/10W J 220R 0805
R765	4010120352		RES-CHIP 1/10W J 20K 0805
R766	4010122252		RES-CHIP 1/10W J 2.2K 0805
R767	4010147352		RES-CHIP 1/10W J 47K 0805
R768	4010147352		RES-CHIP 1/10W J 47K 0805
R769	4010147352		RES-CHIP 1/10W J 47K 0805
R770	4010147352		RES-CHIP 1/10W J 47K 0805
R771	4010122252		RES-CHIP 1/10W J 2.2K 0805
R772	4010133252		RES-CHIP 1/10W J 3.3K
R773	4010133252		RES-CHIP 1/10W J 3.3K
R774	4010133252		RES-CHIP 1/10W J 3.3K
R775	4010133252		RES-CHIP 1/10W J 3.3K
R776	4010133252		RES-CHIP 1/10W J 3.3K
R777	4010115352		RES-CHIP 1/10W J 15K 0805
R778	4010175352		RES-CHIP 1/10W J 75K 0805 -AT-
R780	4010110352		RES-CHIP 1/10W J 10K 0805
R784	4010110352		RES-CHIP 1/10W J 10K 0805
R785	4010133252		RES-CHIP 1/10W J 3.3K
R786	4010122152		RES-CHIP 1/10W J 220R 0805
R787	4010133252		RES-CHIP 1/10W J 3.3K
R788	4010122152		RES-CHIP 1/10W J 220R 0805
R791	4010110352		RES-CHIP 1/10W J 10K 0805
R792	4010147352		RES-CHIP 1/10W J 47K 0805
R795	4010110352		RES-CHIP 1/10W J 10K 0805
R796	4010133252		RES-CHIP 1/10W J 3.3K
R797	4010133252		RES-CHIP 1/10W J 3.3K
R799	4010122152		RES-CHIP 1/10W J 220R 0805
TR701	411020945P		TRS. 2SC945P TO-92 -RT-
TR702	4116612030		TRS. RN1203 -RT-
TR703	4116612030		TRS. RN1203 -RT-
TR705	4116612030		TRS. RN1203 -RT-
TR706	4110007330		TRS. 2SA733 TO-92M -RT-
TR707	4116612030		TRS. RN1203 -RT-
TR708	4116612030		TRS. RN1203 -RT-
X701	7151474563		CRYSTAL 14.7456MHZ
ZD701	412050051T		DIODE ZENER 5.1V +-5% MLF SMD
ZD702	412050051T		DIODE ZENER 5.1V +-5% MLF SMD
ZD703	412050051T		DIODE ZENER 5.1V +-5% MLF SMD

******	SS7F101020-404	S	CONNECTOR PCB ASS'Y
	4141107300		P.C.B. CONNECTOR
	4490400207		CONN. 4P WAFER ROUND PIN
	C488040051		CONN. 4P & WIRE ASS'Y W/CORE

Preface
Before You Start

General Safety Precautions

1. Use an isolation transformer in the power line and AC supply to troubleshoot.
2. When servicing, observe the original lead dress, especially in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged.
3. Before turning the display on, measure the resistance between B+ line and chassis ground. Connect the negative side of an ohmmeter to the B+ lines and the positive side to chassis ground. Each line should have more resistance than the following specifications:

B+ Line	Minimum Resistance
+200V	119.58KΩ
+75V	8.77KΩ
+15.0V	2.11KΩ
+12.0V	0.2KΩ
-15V	20.04KΩ
+6.3V	4.69Ω
+5.0V	1.29KΩ

4. Potentials, as high as 26kV are present when this display is in operation. Operation of the display without the rear cover involves the danger of a shock hazard from the display power supply. Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to the display chassis before handling the tube.
5. After servicing, be sure to check the items listed in the Safety Checkout, below before returning the serviced unit to the customer.

Safety Checkout

The following checks MUST be made after correcting the original service problem and before the unit is returned to the customer.

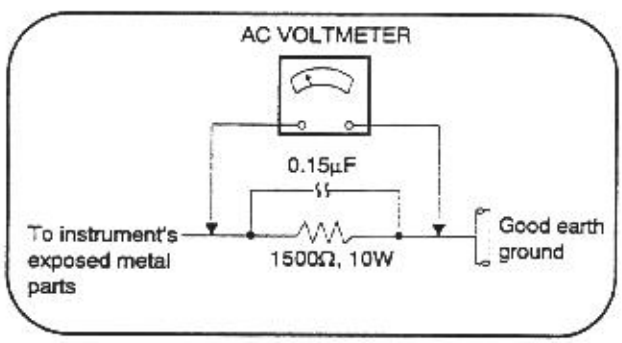
1. Check the area of your repair for unsoldered or poorly soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the inter board wiring to ensure that no wires are pinched or coated with high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps and mounting hardware have been replaced. Make absolutely sure you have replaced all the insulators.
4. Look for any unauthorized replacement parts, particularly transistors, that may have been installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. After making any repair, check the B+ and HV to see whether they are at the values specified. Make sure your instruments are accurate; if your HV meter always shows a low HV, check the meter to ensure it is not malfunctioning.
8. Carry out the leakage current checks as detailed below overleaf.

Leakage Current Cold Check

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Turn on the display power switch.
3. Use an ohmmeter to measure the resistance value between the jumpered AC plug and each exposed metallic cabinet part on the display, such as screwheads, terminals, control shafts, etc. When an exposed metallic part has a return path to the chassis, the reading should be between 240k and 5.2M. When exposed metal does not have a return path to the chassis, the reading must be 0.

Leakage Current Hot Check

1. Plug the AC cord into the AC outlet. DO NOT use an isolation transformer for this check.
2. Connect a 1.5k, 10 watt resistor in parallel with a 0.15F capacitor between each exposed metallic part on the set and a good earth ground (see How to Find a Good Earth, below) as shown in the diagram below.



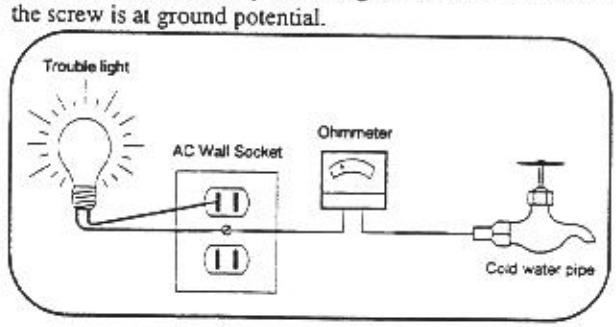
Example of Leakage Current Hot-Check Circuit

3. Use an AC voltmeter with 1000 ohms/volt or more sensitivity to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the polarity of the AC plug in the AC outlet and repeat the above measurements.
6. The potential at any point should not exceed 0.75 volt RMS. A leakage current tester (Simpson Model 229, RCA WT-540A or equivalent) may be used to make the hot checks.

Leakage current must not exceed 0.5 milliamp. If a measurement is outside of the specified limit, there is a possibility of a shock hazard and the monitor should be repaired and rechecked before it is returned to the customer.

How to Find A Good Earth

A cold water pipe is a guaranteed earth ground; the cover plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth ground, verify that it is at ground by measuring the resistance between it and a cold water pipe with an ohmmeter. The reading should be zero (0) ohms. If a cold water pipe is not accessible, connect a 60 - 100 watt trouble light (not a neon lamp) between the hot side of an AC power receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line. The lamp should light at normal brilliance if the screw is at ground potential.



How to Check for Earth Ground

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